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THE INSECT PEST SURVEY
BULLETIN

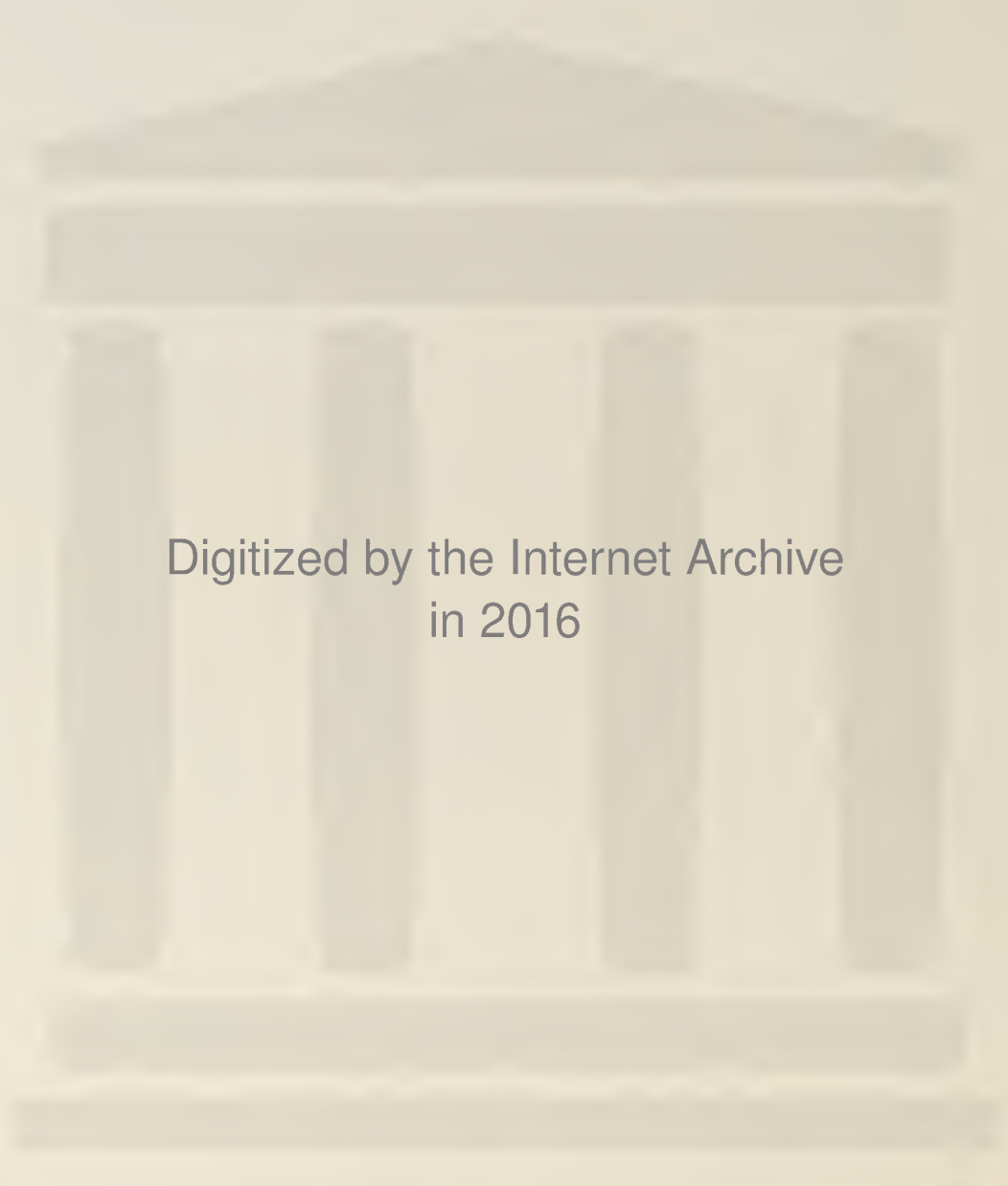
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THE MORE IMPORTANT RECORDS FOR OCTOBER

Damage by grasshoppers is practically over for the season. They are disappearing rapidly. A swarm of Schistocerca americana Drury was observed late in the month moving from north-central Missouri into northeastern Missouri.

The fall armyworm occurred in large numbers in Mississippi, Kansas, and Virginia.

False wireworms were doing some damage to fall-planted wheat in Nebraska and Oklahoma.

The chinch bug was reported as being very abundant in the southeastern part of Iowa, and moderately abundant in Illinois and Indiana.

Late-season damage to corn by the corn ear worm was reported from Indiana to Minnesota and southward to Texas and Arizona; also a heavy infestation in sweet corn was reported from Washington State. Late tomatoes are generally infested in some of the late-tomato-growing sections in the South and also in California.

A single specimen of the European corn borer was found at Arlington, Va., this being about 80 miles from the nearest known infested area.

The corn lantern fly was collected at Columbus, Ohio, during the month, this being the first record for the State.

The vetch bruchid has been found to occur about 50 miles east of Portland in Oregon.

The San Jose scale seems to be generally more abundant than usual from the South Atlantic to the East Central States.

Moderate to heavy populations of the codling moth are reported from Maryland westward to Minnesota and Missouri. Heavy infestations are reported from Utah, and in Washington State the infestation is reported to be the heaviest in many years.

The peach borer is generally above normal in abundance in the South Atlantic and Mississippi Valley States.

Widespread and serious damage was done in the commercial grape-growing sections of Ohio by the grape berry moth this season.

A moderately heavy infestation of garden webworms in truck crops is reported from North Carolina, with severe damage by a species of Loxostege to sugar beets being grown for seed in Arizona.

Pea aphid is much more numerous this fall than it has been for several years in Wisconsin.

Rather severe injury to beans by the Mexican bean beetle is reported from North Carolina, Tennessee, Mississippi, and Arizona.

The pickle worm was observed considerably north of its normal range this year in Rhode Island.

Heavy populations of boll weevil are reported from South Carolina, Florida, Mississippi, Louisiana, and Texas.

A heavy infestation of the moth Heterocampa mantee Dblly. was observed in the Chippewa National Forest in northern Minnesota. The insect was defoliating birch, basswood, and oak.

A new outbreak of Douglas fir tussock moth is apparently started in the Blue Mountains of eastern Oregon, with a smaller infestation in the Malheur National Forest in southeastern Oregon. The last outbreak of this species occurred 10 years ago.

Western pine beetle shows an increase over the last 2 years in eastern Oregon and Washington and in the southern Sierras of California.

Very heavy infestation of Nantucket pine shoot moth was observed on the Island of Martha's Vineyard, Mass.

An intense infestation by the European spruce sawfly was observed in New Hampshire with concentrated infestations throughout Maine, Vermont, and eastern New York.

GENERAL FEEDERS

GRASSHOPPERS (Acrididae)

Ohio. E. J. McNerney (October 17): Large grasshoppers are arriving alive on running gear and plates of cars from the West and Southwest. First appearance noticed on October 2.

Illinois. W. P. Flint (October 28): Although the weather late in September and October has been very favorable for the deposition of grasshopper eggs, there are only a few points in the State where eggs are more abundant than normal. These are scattered points in a number of central counties. None of the areas are large. Eggs were deposited in less than normal numbers in many of the northern and southern counties.

Michigan. R. Hutson (October 22): Grasshopper survey records indicate that not only the infestation in the Upper Peninsula but also that in the upper part of the Lower Peninsula are lower than last year's. Melanoplus mexicanus Sauss. is the dominant species.

Minnesota. A. G. Ruggles (October): Eggs reported in Carlton, Chicago, Dakota, Marshall, and Ottertail Counties. Egg survey not yet completed but some areas show plenty of eggs for next year's brood. Clear-winged grasshopper (Camnula pellucida Scudd.) moderately abundant in Douglas County.

Missouri. L. Haseman (October 25): Scattering numbers continued active, apparently still laying eggs, throughout the first 3 weeks in October. The fall has been ideal for oviposition. Adults of the red-legged (M. femur-rubrum Deg.), the lesser migratory (M. mexicanus), the differential (M. differentialis Thos.), and the large American grasshopper (Schistocerca americana Drury) have been active until the last few cold days and nights. A swarm of the American grasshopper moving from the southeast into the northwest was reported in north-central Missouri, along the Iowa border, on October 17.

Kansas. J. R. Horton (October 3): On July 22 migratory flights of hoppers were reported as observed on several days over Wichita, together with a material decrease in numbers in certain local fields. In September it became evident that a further extensive reduction had occurred in the number of grasshoppers in local fields. They have failed to do any serious damage to young wheat on land where they previously cut 100 percent of the plants to the ground. Egg deposition promises to be light in such places. The decrease in numbers was due to migration. Slight damage done to wheat, grasses, and corn.

H. R. Bryson (October 25): Grasshoppers caused much less injury to fall-sown wheat than usual. In many localities they were scarce at the time wheat was germinating.

Oklahoma. C. F. Stiles (October 25): Rapidly disappearing during the last month and the only place where they are doing any damage is in the Panhandle, where they are damaging fall-seeded wheat. The species doing the most damage is M. mexicanus in Texas County.

New Mexico. J. M. Landrum (October 23): An infestation of M. bivittatus Say with M. differentialis occurred in the central part of the Rio Grande irrigated valley from Belen, Valencia County, to 4 miles north of Albuquerque, Bernalillo County. They are attacking alfalfa, corn, truck crops, and ornamentals. Dissoteira longipennis Thos. has been spreading in a southern and southwestern direction for the last 3 years into Union, Harding, Colfax, and Quay Counties, northeastern New Mexico. A second wave seems to be starting, as the same area covered in 1936 is again infested.

Arizona. C. D. Lebert (September 27): Several species of hoppers observed in garden plots, alfalfa fields, and fence rows in the Chino Valley, Yavapai County. Several alfalfa fields are infested with an average of 30 hoppers per square yard.

Utah. G. F. Knowlton (October 20): Recent cold nights appear to have reduced adult populations in Cache Valley, north-central Utah, approximately 40 percent.

Oregon. D. C. Mote (October): Grasshopper oviposition in eastern Oregon is complete.

California. C. S. Morley (October 4): Still very numerous in Kern County. Doing practically no damage to agricultural crops.

FALL ARMYWORM (Laphygma frugiperda S. & A.)

Virginia. H. G. Walker and L. D. Anderson (October 28): Causing considerable damage in late pea fields at Norfolk by eating out the developing flower buds. They are quite abundant in some fields of spinach.

Mississippi. C. Lyle (October 26): A heavy infestation of grassworms observed on September 27 near Marigold, Bolivar County. A light infestation on gladiolus plants reported at Lyman, Harrison County, on October 15.

Kansas. R. W. Portman (October 5): Fall armyworms moved in on a wheatfield in Phillips County from pasture (grama and buffalo grass) to the east, and turned south, destroying 75 percent of the stand of wheat. Several fields in the county show more or less injury, although it is spotted in the fields and in the county.

BEET WEBWORM (Loxostege sticticalis L.)

Arizona. O. L. Barnes (October 24): Full-grown larvae were quite numerous near Flagstaff, Coconino County, along weedy fence rows and roadsides on October 19-20. The insects were in hibernating cocoons within an inch or two of the soil surface, and thickest where there were regular stands of Russian-thistle. Populations ranged from 6 to 23 per square foot, averaging about 12 per square foot where counts were made. Larvae were seldom encountered in cultivated fields or in native grassland. There were extremely heavy infestations of the larvae and adults in the Flagstaff area during the summer. Considerable damage occurred in vegetable gardens, but most of the feeding was done on weeds, especially pigweed and Russian-thistle.

ARMYWORM (Cirphis unipuncta Haw.)

Vermont. J. V. Schaffner, Jr. (October 21): Moths reported as very abundant around the lights in Randolph during the middle of September.

Connecticut. J. V. Schaffner, Jr. (October 21): Moths brought in on October 17 and reported as abundant around lights in New Haven. Noted in abundance around lights in Hamden on October 19.

Virginia. F. F. Dicke (October): Common occurrence over northern Virginia areas has been reported. Found feeding on corn along with and in a manner similar to that of the corn ear worm. The injury was also common during August.

Missouri. L. Haseman (October 25): Since the middle of October a sprinkling of moths has been on the wing in central Missouri.

WIREWORMS (Elateridae)

Pennsylvania. C. A. Thomas (October 26): Although there has been some wireworm damage to potatoes in Pennsylvania during the last season, the injury has been scattered sparsely over the State and no bad outbreaks have been noted. The species injurious to truck crops in southeastern Pennsylvania was recently determined by M. W. Lane to be Linonius dubitans Lec. Previously we have referred to this species as L. agonus Say, which is apparently a much scarcer species here.

Tennessee. G. M. Bentley (September 26): Wireworms reported as seriously damaging sweetpotatoes in western Tennessee, making many of them unmarketable.

California. R. E. Campbell (October 10): About 2 acres in one corner of a large field of late fall potatoes were so heavily infested with wireworms that most of the plants were killed. Plants pulled up either had wireworms feeding in the underground stems and roots, or showed signs of feeding. These stems and roots were attacked much more than the partially grown potatoes present.

FALSE WIREWORMS (Eleodes spp.)

Nebraska. M. H. Swenk (October 21): The Plains false wireworm (E. opaca Say) reported on October 12 as damaging wheat in Harlan County.

Oklahoma. C. F. Stiles (October 25): False wireworms have been reported from Woodward County as seriously damaging fall-sown wheat, and in many fields the stands have been destroyed. The species doing the damage has not been determined.

WHITE GRUBS (Phyllophaga spp.)

Kentucky. W. A. Price (October 24): A heavy flight of Brood B adults is expected to occur in the Bluegrass Region in the spring of 1939. Weather and soil conditions were favorable for pupation and populations of from 40,000 to 60,000 adults per acre have been found in the vicinity of Lexington. P. hirticula Knoch is the most common species.

Michigan. R. Hutson (October 22): First-year white grubs were found rather numerous in grasshopper trampling operations in the northeastern counties of the Lower Peninsula, particularly in Gladwin, Alpena, and Montmorency Counties.

Kansas. H. R. Bryson (October 25): White grubs are abundant near the surface of the soil. Owing to high soil temperatures, they have been active at the roots of green plants and have caused some injury. One field of corn near Manhattan showed about 10 percent of the stalks down as a result of having had the roots eaten off during the latter part of the summer.

R. W. Portman (October 23): At Saint Francis, in southwestern Kansas, a wheatfield broken out of native sod in 1935 has been infested with white grubs. Although there had been no apparent injury until this fall, the grower had redrilled twice by October 15, with damage to the total acreage. Many fields in the vicinity show partial damage.

Nebraska. M. H. Swenk (October 21): White grubs reported as destroying wheat in Hamilton County on September 30. An inquiry as to control of white grubs in lawns received from Thurston County on September 26.

SCARABAEIDS (Ochrosidia spp.)

New Jersey. L. B. Parker (October 7): White grubs were found to be very abundant in lawn area of about 3/4 acre in one yard at Moorestown, Burlington County. Turf was seriously injured and, in many places, could be rolled back over areas of several square feet. No other infestation was found in the yard on either side of the one in question. Abundance was 20 to 25 per square foot. Workmen gathered approximately 5 quarts of grubs from an area of 60 square feet.

Kentucky. W. A. Price (October 24): A large lawn on a farm near Lexington was found to be severely injured by grubs of O. immaculata Oliv. late in September.

GREEN JUNE BEETLE (Cotinis nitida L.)

Kentucky. W. A. Price (October 24): Larvae are very abundant in the vicinity of Lexington.

FULLER'S ROSE BEETLE (Pantomorus godmani Crotch)

Florida. S. O. Hill (October 20): Specimens were attacking the foliage of tung-oil plant at Monticello, Jefferson County. Also observed attacking foliage of pecan, Cape-jasmine, and other plants. (Det. by L. L. Buchanan.)

COMMON RED SPIDER (Tetranychus telarius L.)

Pennsylvania. C. A. Thomas (October 26): The greenhouse red spider has caused much injury to various varieties of roses in the Kennett Square area during the last season. Several bad infestations in chrysanthemums, with extensive webbing of the leaves and flowers, have also been seen in this area.

CEREAL AND FORAGE - CROP INSECTS

WHEAT AND OTHER SMALL GRAINS

HESSIAN FLY (Phytophaga destructor Say)

Ohio. T. H. Parks (October 24): No serious infestation present, even in northwestern Ohio, where in one county the insect fed upon 32 percent of the straws of the 1937 crop. The situation has been relieved, apparently through general observance of safe-sowing dates, aided to some extent by timely rains, which prevented seeding in that area during the week preceding the recommended dates.

Indiana. C. Benton (October 31): In the locality of La Fayette emergence was rather straggling between September 15 and October 10. Most of the emergence occurred the last week in September. Wheat sown prior to the safe date (September 28 for this locality) and up to October 1 shows moderate to severe infestation; wheat sown since the safe date shows light to no infestation. Wheat sown the middle of September showed many full-grown larvae by October 10 and some puparia by October 22. The unusually long, favorable weather has permitted many of the severely infested early sown fields to tiller out in an effort to overcome the infestation. In a stubble field near Delphi, 20 miles northeast of La Fayette, less than half of the flies emerged from the stubble, owing to lack of rain in this locality. A rain on October 11 caused a light emergence in late October, thus bringing about a light infestation of late-sown wheat.

Missouri. L. Haseman (October 25): A fall check-up on wheat stubble in the northeastern counties of the State, which were not covered in the earlier Federal report, showed that most of the areas from which stubble was examined had no flaxseeds, while stubble from other fields showed very light infestation, averaging 2.2 percent.

Correction.—Data on hessian fly survey for Missouri and map illustrating same were represented incorrectly in the Insect Pest Survey Bulletin issued on September 20 (vol. 18, supplement to no. 7, p. 516). On the map, infestation in the northwestern part of the State should be 2 percent, in the southwestern part 8 percent, in the southeastern part 1 percent, and in the east-central part 3 percent. The Hessian fly infestation, June 1938 figures given in the summary were for Oklahoma, instead of for Missouri. Correct summary follows.

Area	Fields		Stems infested		
	Sampled	Number	Average	Maximum	Minimum
			Percent	Percent	Percent
Missouri:	:	:	:	:	:
Northwestern -----	20	:	2	10	0
West-central -----	33	:	2	22	0
East-central -----	43	:	3	18	0
Southwestern -----	35	:	8	68	0
Southeastern -----	20	:	1	4	0

Kansas. J. R. Horton (October 3): The fall generation was unusually late in getting under way, first eggs occurring on September 22. Population promises to reach a new low level in local winter wheat seedings, partly as a result of abnormally hot, dry weather, although there were two good rains in the first half of September. Volunteer wheat occurring in favorable locations in July and August received only a trace of infestation, but volunteer did not appear generally until about September 19.

E. T. Jones (October): In a limited survey made on October 24 of 27 select fields in 10 counties in eastern Kansas infestation was found in all but 3 fields. Average infestation was 14 percent; average intensity, two puparia per infested stem. Owing to poor stands of wheat, infestation is spotted. Infestations occur over a greater area than usual. No serious injury likely to occur this fall, but the increase in population constitutes a threat to the spring crop.

CHINCH BUG (Blissus leucopterus Say)

Indiana. C. Benton (October 31): The unusually long, warm, dry fall permitted complete development of the second brood and migration of the brood to winter hibernation quarters. No serious general second-brood infestation reported this fall, although a few cornfields were heavily infested and somewhat damaged in spots. Most of the nymphs had reached the adult stage by October 1. Migration to winter quarters started the first of September, heavy migrations occurring late in September and early in October.

Illinois. W. P. Flint (October 23): The warm, dry weather late in September and in October has been very favorable for chinch bugs going into winter quarters. While the population was greatly reduced by the wet weather of the summer, the favorable fall has aided the insect to such an extent that there may be some damage in 1939.

Iowa. H. E. Jaques (October 25): Very abundant in the southeastern part of the State.

A LEAFHOPPER (Deltoccephalus inimicus Say)

Nebraska. M. H. Swenk (October 21): Specimens were sent in from Harlan County on September 27 with the report that it had damaged a large field of wheat.

EUROPEAN WHEAT STEM SAWFLY (Cephus pygmaeus L.)

Pennsylvania, Delaware, and Maryland. (October 20): A wheat-insect survey made by E. J. Udine and J. S. Pinckney during July and August, in which a 50-stem sample from each of 5 fields in each county was examined, yielded the following data on sawfly abundance. In Pennsylvania, in Berks, Bucks, Lancaster, Lebanon, and Lehigh Counties infestation was 4 percent; in Centre County, less than 1 percent. In Delaware less than 1 percent of stems were infested in New Castle County. In Maryland, in Baltimore and Carroll Counties there was a 3-percent infestation.

BLACK GRAIN STEM SAWFLY (Trachelus tabidus F.)

Pennsylvania, Delaware, Maryland and Virginia. C. C. Hill (October 20): The wheat-insect survey conducted by E. J. Udine and J. S. Pinckney yielded the following data on abundance of this sawfly: In Pennsylvania, in Franklin, Huntingdon, York, Centre, Butler, Indiana, and Mercer Counties less than 3 percent of the stems were infested. In Delaware 1 percent of the stems were infested in Kent and New Castle Counties. In Maryland, in Cecil, Dorchester, and Queen Annes Counties, on the Eastern Shore, there was no infestation. In Baltimore, Carroll, Frederick, Montgomery, and Washington Counties there was a 3-percent infestation. In Virginia, in Fauquier, Prince William, Loudoun, Caroline, Essex, Hanover, Westmoreland, Augusta, Rockbridge, Rockingham, Shenandoah, Pittsylvania, Halifax, and Campbell Counties the infestation was less than 2 percent. The range was from 0 to 14 percent. Most southern localities where it was found were in Halifax and Campbell Counties.

CORN

CORN EAR WORM (Heliothis obsoleta F.)

- Indiana. H. C. Mason (October 24): Infestation was light on corn and tomatoes the first part of the season around Vincennes, southwestern Indiana. Moths started to appear in numbers about August 17 and by early September the infestation was heavy in late-planted corn, but tomatoes escaped injury.
- Kentucky. W. A. Price (October 24): Unusually scarce in tomatoes at Lexington, although abundant in sweet corn.
- Minnesota. A. G. Ruggles and assistants (October): Some areas around Minneapolis and Saint Paul showed heavy infestation in late sweet corn.
- Iowa. H. E. Jaques (October 25): Field corn considerably damaged although the pest seems to be somewhat less abundant than in its worst years.
- Missouri. L. Haseman (October 25): Late sweet corn at Columbia was practically 100-percent infested.
- Kansas. R. W. Portman (October 23): From one to four larvae observed in Cheyenne County on October 15 in a compact sorghum head; not all heads of same strain attacked. Some compact heads seem to be resistant. Damage amounted to 10 percent in spots.
- Texas. R. K. Fletcher (October 21): Usually severely injurious to grain sorghum, but not found on sorghum in Robertson, Limestone, Navarro, Ellis, and Dallas Counties in a recent survey.
- Arizona. O. L. Barnes (October 24): Practically all ears examined in several corn-fields at Chino Valley, Yavapai County, from September 27 to 29 contained larvae. Damage to grain in individual ears ranged from very light to 10 and 15 percent, depending on the size and number of larvae present in each ear. Near Flagstaff, Coconino County, ears of corn were examined at random in four fields on October 19-20. All ears examined in three of the fields and

90 percent of those examined in the fourth field had been attacked. Living larvae were abundant in ears at Flagstaff on September 30, but no larvae were observed on October 19-20.

W. A. Stevenson (October 1): L. L. Stitt, of the Tempe station, reports that in the Yuma and Mohawk Valleys, Yuma County, considerable damage has been inflicted to seeding alfalfa in some fields. Moths reared from larvae collected in the alfalfa fields confirmed the identity of the species. So far as we are aware, this is the first authentic record of damage to alfalfa in Arizona by this common cotton insect.

Washington. W. W. Baker and C. W. Getzendaner (October 15): Nearly every ear of sweet corn in late pickings at Puyallup was infested. Reported also as infesting popcorn near Graham. Both localities are in Pierce County.

EUROPEAN CORN BORER (Pyrausta nubilalis Hbn.)

Connecticut. M. P. Zappe (October 24): The hurricane of September 21 blew down a large number of apples at the Experiment Station orchard. Some varieties were on the ground for about 2 weeks and during that period about 5 percent of them under certain trees became infested with corn borers. There was no corn near these trees but weeds were present in the hedge row adjoining the orchard.

Virginia. C. M. Packard (October 24): On October 14 a single larva was found by F. F. Dicke in the corn experimental plot at Arlington Farm. As the airline distance to the nearest previously known infestation, Delaware and the Eastern Shore, is about 80 miles, there seems reason to suspect that additional nearby areas of infestation may exist in Virginia and Maryland. (Det. by C. Heinrich.)

Guam. R. G. Oakley (August 31): Average infestation of corn during the periods of heavy corn planting, maturing normally in June and July and in December and January, as found in 51 fields scattered about the island for three crop seasons, the third ending in July 1938, was estimated at 4 percent. The heaviest infestations found in these three periods amounted to only 7 percent, whereas some fields scouted gave negative findings. The average parasitization by Lydella stabulans Meig. var. amounted to 90 percent. The average infestations in scattering fields maturing several weeks later than the normal crop were found to increase. Two such fields in September 1937 bore 20- and 26-percent infestations, respectively, but with 95 percent parasitization. In August 1938 two fields bore 50- and 70-percent infestations, respectively, of the borer. Parasitization by L. stabulans in these cases amounted to about 98 percent. Damage by the borer in all but the two last-mentioned fields appeared to be of little importance. Three borers per stalk were rarely found in an infested stalk, two borers per infested stalk were not common, except in the heavier infestations, and one borer per stalk did not appear to materially affect the size of the ear.

CLOVER HAY WORM (Hypocrygia costalis F.)

Louisiana. W. E. Anderson (October 21): Reported as doing considerable damage, especially in corn fodder.

PINK CORN WORM (Pyroderces rileyi Wlsm.)

South Carolina. O. L. Cartwright (October): Found in at least 75 percent of the ears in field corn in the coastal half of the State.

CORN LANTERN FLY (Peregrinus maidis Ashm.)

Ohio. H. Osborn (October 9): Observed on the University campus at Columbus on October 7. This is my first record for Ohio and, so far as I am aware, no records for the species have been made north of Tennessee for the Mississippi Valley. Specimens were taken in numbers and apparently the species is well established for the season, but whether it will survive at this latitude is a question. It is a common southern species and is reported as far north as Washington along the Atlantic seaboard.

A BROAD-NOSED GRAIN WEEVIL (Caulophilus latinasus Say)

South Carolina. O. L. Cartwright (October 4): Found in 39 percent of the ears of corn in a field near McClellanville, Charleston County. It was found in lesser numbers in other fields in Charleston, Georgetown, and Horry Counties.

A FLOUR BEETLE (Cathartus cassiae Reiche)

South Carolina. O. L. Cartwright (October): Found in 75 percent of the ears of field corn in the coastal half of the State.

A SCARABAEID (Holotrichia mindanaona Brenske)

Guam. R. G. Oakley (August 30): Grub-population counts were made in one field to determine the average number of grubs present per square foot. The field chosen for the purpose, typical of the grub-infested district at Dededo, was adjacent to forest growth on one side, to coconut plantings on the opposite side and ends, and had a few coconut palms interplanted in the field. In sites examined the populations were found to range from less than one to five grubs per square foot, averaging 2.53 grubs of mature size per square foot. Grubs were reduced by 61 percent in a 19-day period by cultivation, hand-picking, and ranging of chickens. Light trap results: The two light traps located at Piti and Asan were operated continuously at night during August, with a total catch of three beetles, two of which were caught on the last day of the month.

ALFALFA

THREE-CORNERED ALFALFA HOPPER (Stictocephala festina Say)

South Carolina. W. C. Nettles (October 24): Pest apparently caused serious damage to alfalfa at Rock Hill, York County.

ALFALEA CATERPILLAR (Eurymus eurythene Bdv.)

Nevada. G. G. Schweis (October 19): A serious outbreak observed in Churchill County and, to a lesser extent, in Pershing County, both in western Nevada.

SORGHUM WEBWORM (Celama sorghiella Riley)

Texas. R. K. Fletcher (October 21): Found to be present on grain sorghums in Robertson, Limestone, Navarro, Ellis, and Dallas Counties in greatly reduced numbers.

VETCH

VETCH BRUCHID (Bruchus brachialis Fahraeus)

Oregon. L. P. Rockwood (October 15): In examining a lot of insects swept on roadsides and fence rows at Parkdale, Hood River County, on May 28, 1938, almost immediately some B. brachialis were found. It was reported that there were from 15 to 20 of the weevils in this collection from fence row--apparently they must have been rather thick. This locality is 50-60 miles east of Portland and mostly in the Cascade Range. All lots of seed seen or recorded in the Willamette Valley have been very lightly infested, mostly under 1 percent.

CLOVER

CLOVER SEED CHALCID (Bruchophagus gibbus Boh.)

Michigan. R. Hutson (October 22): Reported from Sandusky, Sanilac County.

CLOVER SEED MIDGE (Dasyneura leguminicola Lint.)

Michigan. R. Hutson (October 22): Reported from Sandusky, Sanilac County.

COWPEAS

LEAF-FOOTED BUG (Leptoglossus phyllopus L.)

North Carolina. W. A. Thomas (October 19): This insect has been particularly abundant at Chadbourn, Columbus County, on some fields of cowpeas during the last month. The attack has been so severe as to cause the small peas to die before reaching maturity, while other pods have been deformed to such extent that their market value has been destroyed.

VELVETBEANS

VELVETBEAN CATERPILLAR (Anticarsia gemmatilis Hbn.)

South Carolina. W. C. Nettles (October 24): Reported from Colleton County in September.

J. G. Watts (September 27): Injury noticeable but not very serious at Garnet, Hampton County. In the State as a whole very little damage has been done.

Louisiana. L. O. Ellisor (October 22): During the last month infestation has been wiped out by the fungus Spicaria prasina.

FRUIT INSECTS

SAN JOSE SCALE (Aspidiotus perniciosus Comst.)

Maryland. E. N. Cory (October 22): There has been an unusual build-up of this scale on apple throughout the State.

Georgia. O. I. Snapp (October 20): Conditions during the last month have been unusually favorable for the San Jose scale at Fort Valley, central Georgia, and the insect has increased so rapidly that the infestation is considerably greater than that of an average year. Some peach orchards are now encrusted with scale, although the trees have not yet entirely lost their leaves.

Mississippi. G. Lyle (October 26): Considerable damage to peach trees in Hinds and Scott Counties, injury to peach and pear trees in southwestern Mississippi, and heavy infestations on peach and rose.

Ohio. G. A. Runner (September 28): Large numbers of apples marked by scale in some orchards in the Sandusky area. An increase over last year.

Illinois. W. P. Flint (October 28): The late broods will aid greatly in bringing up the infestation.

Kentucky. W. A. Price (October 24): Unusually abundant this year in many Paducah and Henderson orchards. Very young scales are present.

Arizona. C. D. Lebert (September 27): A light infestation found in a 3-acre apple and pear orchard near Cottonwood, Verde Valley, Yavapai County, during September.

A LEAF-CUTTING ANT (Atta sp.)

Texas. R. K. Fletcher (October 21): Reported as injurious to orchards in Parker and Real Counties.

EUROPEAN RED MITE (Paratetranychus pilosus C. & F.)

Ohio. G. A. Runner (September 28): Evidence of foliage injury in a few apple orchards, but has not been especially abundant this season in the Sandusky area.

APPLE

CODLING MOTH (Carpocapsa pomonella L.)

Maryland. E. N. Cory (October 22): Recent survey shows a heavy population over the State, owing to a small crop of apples.

Ohio. T. H. Parks (October 24): A check-up of 78 commercial orchards located in representative fruit sections showed both scab and codling moth to have increased slightly since 1937. The percentage of fruit blemished by codling moth, including both stings and entrances, was 6.2. It ranged from 0.3 to 54.0 percent, the highest infested orchards being in Lucas County, near

Toledo. The increase in percentage of blemished fruit over that of a year ago is obviously owing to a very light crop and to the fact that much spot spraying was done.

Minnesota. A. G. Ruggles (October 25): Unsprayed orchards showed a heavy infestation.

Missouri. L. Haseman (October 25): Recent counts of overwintering larvae under tree bands indicate that many of the larvae reached maturity before late apples were removed from the orchard; therefore we are going into the winter with many apple worms.

Utah. C. J. Sorenson (October 21): More larvae will overwinter in Utah County than during the last two seasons.

Washington. E. J. Newcomer and M. A. Yothers (October 18): Hot weather, which lasted from September 10 to 27, has caused an unusual amount of late worm infestation. Fruit shippers claim that in this respect it is the worst season they have ever experienced, and the Weather Bureau records show that it was the warmest September in 30 years. Pupation practically ceased by August 20. Of 1,200 larvae entering bands from August 23 to 30, only 3 or 4 pupated.

APHIDS (Aphididae)

Maine. F. H. Lathrop (October 19): Late in the summer in Monmouth, Kennebec County, the apple aphid (Aphis pomi DeG.) became very scarce and colonies were difficult to find on apple trees. On experimental trees a light infestation continued. First eggs were noticed on these trees the last week in September and are still being deposited.

Kentucky. W. A. Price (October 24): Apple orchards at Lexington are heavily infested with the fall migrants of the rosy apple aphid (Anuraphis roseus Baker). Oviparous females are being produced in considerable numbers.

WHITE APPLE LEAFHOPPER (Typhlocyba pomaria McAtee)

Maine. F. H. Lathrop (October 19): Since the frosty nights that occurred early in October, the adults have been depositing eggs in apple bark at Monmouth. The adults are noticeably less numerous since the hurricane of September 21.

Connecticut. P. Garman (October 1): Apparently many adults were destroyed by the hurricane of September 21. Few could be found around New Haven after the storm.

A MEALYBUG (Pseudococcus comstockii Kuw.)

South Carolina. J. A. Berly (October 2): About eight trees at Clemson rather heavily infested, mostly on the main trunk, but scattered on smaller limbs also. (Det. tentatively by H. S. McConnell.)

APPLE MAGGOT (Rhagoletis pomonella Walsh)

Rhode Island. A. E. Stene (October 26): Unusually abundant this summer, even in well-cared-for orchards, making it difficult for farmers to dispose of windfalls after the storm.

Maryland. E. N. Cory (October 22): Infestation found in two poorly cared for apple orchards at Hancock, western Maryland.

Michigan. R. Hutson (October 22): Infestations reported from home apple orchards at Grand Rapids, Bay City, Saginaw, South Haven, and Portland.

PEACH

ORIENTAL FRUIT MOTH (Grapholitha molesta Busck)

New Jersey. H. W. Allen (October 25): In Burlington County, on midseason varieties of peach, infestation of ripe fruit in 8 orchards ranged from 3.7 percent, or an estimated 8 fruits per tree, to 31.0 percent, or an estimated 117 fruits per tree. The average was 14.3 percent, with 52 infested fruits per tree. The infestation ranged from very light in some orchards to moderately heavy in others. In general, larval parasitization in twigs was lightest in orchards having a heavy fruit infestation.

Ohio. G. A. Runner (September 28): Less than the usual damage to the later ripening varieties of peaches in the Sandusky area.

Mississippi. C. Lyle (October 26): Considerable injury to young peach trees recently reported at Brookhaven, Grenada, and Jackson, in Lincoln, Grenada, and Hinds Counties, respectively.

PEACH BORER (Conopia exitiosa Say)

Georgia. O. I. Snapp (October 20): Dry weather during the egg-hatching season at Fort Valley facilitated the entrance of newly hatched larvae into the trees, resulting in an infestation somewhat heavier than usual, as revealed by the examination of many peach trees for borers during the last 2 weeks.

Mississippi. C. Lyle (October 26): Reported as moderately abundant in orchards near Senatobia and Jackson, in Tate and Hinds Counties, respectively. Data on control requested from various sections of the State.

Ohio. T. H. Parks (October 24): Larvae were already well developed by October 15, when they were found to be from one-fourth to one-half grown. This insect continues to be a problem in all peach orchards and is annually responsible for the death of many backyard peach trees.

Kentucky. W. A. Price (October 24): Borers are abundant. At Lexington as many as 21 borers, most of them large, were removed from a single 1-year-old peach tree.

BLACKBERRY

RASPBERRY ROOT BORER (Bembecia marginata Harr.)

Washington. W. W. Baker and B. J. Landis (October 19): Approximately 66 percent of the eggs have hatched, and 75 percent of the egg parasite Telenomus sp. have emerged on bush blackberries at Sumner, Pierce County.

ROSE LEAFHOPPER (Typhlocyba rosae L.)

Washington. W. W. Baker (October 14): Adults were moderately abundant on evergreen blackberries in Puyallup, Pierce County.

APHIDS (Macrosiphum spp)

Washington. W. W. Baker (October 17): Rather common, and oviparous forms present on Rubus in Puyallup, Pierce County. Amphorophora rubi Kltb. also present.

GRAPE

GRAPE LEAFHOPPER (Erythroneura comes Say)

Kansas. J. R. Horton (October 26): Abundant on ornamental ivy during August and September at Wichita, causing much discoloration of the leaves and some defoliation by killing the leaves. Late in October adults have been extremely numerous about houses having such vines, and have caused annoyance by hovering about the doors and flying into the houses.

California. C. S. Morley (October 4): Very light as compared to this season last year in Kern County.

GRAPE BERRY MOTH (Polychrosis viteana Clem.)

Ohio. T. H. Parks (October 24): Widespread and serious damage done to the commercial grape crop over most of northern Ohio. Losses in Ashtabula and Lake Counties, northeastern Ohio, were revealed to be serious in vineyards on clay land and located in communities that had never before experienced losses from this insect. In some vineyards where the crop was light the grapes were scarcely worth picking.

G. A. Runner (September 28): Loss of grapes in the Sandusky area due to the late brood, was serious in some vineyards, especially those bearing only a partial crop of fruit. An unusual feature of the seasonal development of the berry moth in this locality was the emergence early in September of moths from cocoons of the second brood from insectary material.

RAISIN MOTH (Ephestia figulilella Greg.)

California. P. Simmons and associates (September 30): Extensive and severe damage to several varieties of grapes was observed in Tulare County. The raisin moth appeared to be the primary pest, followed by Drosophila sp. Bunches of grapes were decomposed. Losses of this type are more severe than in any previous season.

GRAPE PHYLLOXERA (Phylloxera vitifoliae Fitch)

North Carolina. D. L. Wray (September 30): Severe damage to a vineyard at Tryon, Polk County, was observed in September.

PECAN

TWIG GIRDLER (Oncideres cingulatus Say)

North Carolina. W. A. Thomas (October 15): Particularly destructive in pecan groves in the Chadbourn area. Many branches in these trees have been severed and left lodged among the limbs, giving the trees a very ragged appearance. The insects are much more numerous this season than last. Also observed on hickory and persimmon.

Florida. H. Spencer (October 15): Some damage done to small Japanese persimmon trees. Also taken on Casuarina (Australian pine).

Mississippi. C. Lyle (October 26): Slight damage to pecan trees in Hinds and Madison Counties recently reported.

PECAN WEEVIL (Curculio caryae Horn)

Texas. W. C. Pierce (October 27): Pecan nuts produced on seedling and topworked pecan trees growing near Pecan Bayou, near Brownwood, are heavily infested. Many larvae were emerging from infested nuts during the latter half of October.

HICKORY SHUCK WORM (Laspeyresia caryana Fitch)

Ohio. G. A. Runner (September 28): Hickory nuts in all parts of the Sandusky area observed show heavy infestation.

South Carolina. J. G. Watts (October): Has caused more damage this season than for many years. Damage has been very general wherever pecans are grown.

Mississippi. C. Lyle (October 26): Specimens on pecan received from Bolivar and Washington Counties. Slight injury was reported in each case, and some injury to pecan was noted in southwestern Mississippi.

Texas. C. B. Nickels and W. C. Pierce (October 27): Shucks of pecan nuts produced in the vicinity of Brownwood are heavily infested. Infestation is very light at Crystal City.

RED-HUMPED CATERPILLAR (Schizura concinna S. & A.)

Florida. H. Spencer (October 20): Adults bred from larvae, found defoliating a young pecan tree on August 28, have been identified as this species.
(Det. by J. F. G. Clarke.)

BLACK PECAN APHID (Melanocallis caryaefoliae Davis)

Mississippi. M. L. Grimes (October 26): Several heavy infestations on pecan were observed in the vicinity of Meridian during the month.

CITRUS

FLORIDA RED SCALE (Chrysomphalus aonidum L.)

Florida. H. Spencer (October 20): Present in all citrus sections. Leaf drop from heavy infestations has been seen in some groves and citrus nurseries. There were large increases in population late in the summer.

PURPLE SCALE (Lepidosaphes beckii Newm.)

Florida. H. Spencer (October 20): Scattered heavy infestations in all citrus sections, especially where the groves have received control measures that left inert residues.

CITRUS RUST MITE (Phyllocoptes oleivorus Ashm.)

Florida. H. Spencer (October 15): Rust mites again increasing in numbers all over the citrus section, after the usual summer slump.

MANGO

RED-BANDED THRIPS (Selenothrips rubrocinctus Giard)

Florida. H. Spencer (October 10): Quite destructive to nursery mango trees in central Florida.

PAPAYA

PAPAYA FRUITFLY (Toxotrypana curvicauda Gerst.)

Florida. H. Spencer (October 1): After an absence of nearly 4 years, the papaya fruitfly is again observed in central Florida. It was eliminated from this section by the freeze of 1934, which cut down all the plants. Weather in the Miami district was not cold enough to eradicate it there.

A WHITEFLY (Trialeurodes variabilis Quaint.)

Florida. H. Spencer (October 20): Absent all this year from some plantings of papaya in central Florida. In other plantings, where the leaves remained green throughout last winter, this insect has been quite troublesome.

Correction.--The insect referred to as Papilio thoas L. in Insect Pest Survey Bulletin dated September 1, 1938 (vol. 18, No. 7, p. 471, last line) should have been P. cressphontes Cram.

TRUCK - CROP INSECTS

GARDEN WEBWORM (Loxostege similalis Guen.)

North Carolina. Z. P. Metcalf (October 3): Doing serious damage to turnips in Granville County, north-central part of the State.

W. A. Thomas (September 26): A light infestation on the experimental cabbage plots at Chadbourn, Columbus County. An infestation of this insect has not been observed at Chadbourn during the last 3 years.

Arizona. O. A. Hills (October 11): Damage to sugar beets grown for seed was general over the Salt River Valley, but more severe in spots, and resulted in either spraying or dusting of approximately one-quarter of the acreage. The insect feeds primarily on the crown of the beet and in some fields damage was sufficient to cause barren spots. Principal damage occurred between September 15 and October 10. (Det. tentatively by K. B. McKinney as L. similalis, as was material formerly submitted.)

STRAWBERRY FRUITWORM (Cnephasia longana Haw.)

Oregon. D. C. Mote (October): First-instar larvae observed in the Willamette Valley in overwintering hibernacula. Injury has been severe to strawberries and flax during 1938, also considerable injury to sugar beets and legumes.

STRIPED CUCUMBER BEETLE (Diabrotica vittata F.)

Rhode Island. A. E. Stene (October 26): Late brood reported as being abundant and attacking the surface of squash fruit at Kingston.

Missouri. L. Haseman (October 25): Feeding on late cucurbits throughout the first half of October, although in gardens under observation at Columbia, there were 10 spotted cucumber beetles to 1 striped beetle feeding during October. On October 26 there were two striped to one spotted cucumber beetle on squash.

SPOTTED CUCUMBER BEETLE (Diabrotica duodecimpunctata F.)

Virginia. F. W. Poos (October 10): Especially abundant in peanut pods at Arlington Farm at the time of digging, on October 10.

Mississippi. N. L. Douglass (October 26): Very common in most gardens in the vicinity of Grenada, Grenada County.

Missouri. L. Haseman (October 25): Continued actively feeding on late cucurbits throughout the first half of October. At Columbia late Hubbard squashes and practically all of their bloom were consumed by swarms of these beetles. Since October 20 they have apparently all hibernated.

Nebraska. M. H. Swenk (October 21): Specimens sent in from Nuckolls County on October 16 with the report that they were attacking petunia, fall iris, and other ornamental plants.

FALSE CHINCH BUG (Nysius ericae Schill.)

Mississippi. M. L. Grimes (October 26): Injury to turnips recently observed in the vicinity of Meridian, Lauderdale County.

GREEN STINKBUG (Acrosternum hilaris Say)

Alabama. J. M. Robinson (October 22): On beans at Auburn on October 20.

POTATO AND TOMATO

CORN EAR WORM (Heliothis obsoleta F.)

Virginia. H. G. Walker and L. D. Anderson (October 28): More abundant and caused more damage to fall snap beans than they have for several years at Norfolk.

Ohio. T. H. Parks (October 24): Considerable injury occurred early in October to shipped tomatoes. A dealer at Cincinnati reported injury developing commonly after the fruits were placed in the ripening chambers.

N. F. Howard (October 24): On October 22 a heavy infestation was seriously damaging tomatoes in one of the Ohio State University horticultural greenhouses at Columbus. The worms were feeding on fruits and foliage but the most severe injury was caused by the tunneling of larvae in the stems toward the tips, causing damage, which at first glance one would attribute to the work of the stalk borer.

Kansas. H. R. Bryson (October 28): Caused some injury to late tomato plants during the latter part of September. All of the larvae had pupated by October 25.

Utah. G. F. Knowlton (October 5): Very few tomato fruitworm moths have come to trap lights in Utah during 1938. A moderate increase in fruitworm injury to tomatoes has been reported by several northern Utah farmers, and this conforms to field observations.

California. A. E. Michelbacher (October 20): Over most of the tomato-producing area of northern California an infestation failed to develop. Tomato fields in San Joaquin County were surveyed on September 27 and the amount of fruit infested was, in general, less than 2 percent. The highest infestation was 9 percent. A number of fields observed in Sacramento County on October 13 showed only about 1 percent of the fruit infested. Infestation in Yolo County on October 14 ranged from 0 to 22 percent, the infestation in most fields being 3 percent or more. In several fields it ran between 6 and 8 percent, and only in a single field was a 22-percent infestation encountered. Infestation at Brentwood, Contra Costa County, is extremely light. At Pleasanton, Alameda County, infestation in undusted fields averaged about 2 percent. No fruits were found infested in tomato fields around Madera, Madera County, on October 6. According to a survey on October 26, only a very small amount of fruit was found infested in Merced County. The infested fruit in the different fields ranged from 0 to 3.5 percent. Fruit infested in different fields in Alameda County ranged from 1.0 to 9.5 percent. In a survey of tomato fields in

Stanislaus County made on October 28 the amount of fruit infested for the different fields ranged from less than 1 percent to 16.5 percent. Average infestation was close to 3.5 percent. The field with 16.5-percent infestation was on the western side of the county, where a large acreage of beans is grown, leading to the belief that a large population of moths built up on the bean crop, moving over to the tomatoes after the beans had matured.

J. C. Elmore (September 26): Damaging bean pods at Yorba Linda, Orange County.

TOMATO PINWORM (*Gnorimoschema lycopersicella* Busck)

Pennsylvania. C. A. Thomas (October 26): Careful examination of greenhouses and gardens in the Chester County and New Castle areas during the spring and summer of 1938 have failed to show a single specimen of any stage of the pinworm. Crop rotation, omitting the fall tomato crop and substituting a flower crop, has had the desired effect of starving the pinworm out.

California. A. E. Michelbacher (October 20): Infestation in tomato fields around Madera, Madera County, on October 6 ranged from 17 to 67 percent. Because harvest had been completed from 4 to 6 weeks the infestation was causing no serious loss. It was stated by the growers that the infestation was very light at the time harvest was finished. (October 25): Pinworm survey made in Merced County on October 24. Most of fields had been plowed under after harvest. In fields where tomatoes had not been plowed under infestation of fruit ranged from 7.5 to 26.0 percent. Infestation in most fields was close to 25 percent. In one 90-acre planting two rows of tomatoes on either bank of an irrigation ditch had not been plowed under. Foliage was severely injured and 91.5 percent of the fruit was infested. When this field was surveyed late in July no evidence of pinworm was found. First pinworm taken in the county was on July 18 and infestation was extremely light, at least during August. (October 29): In 3,200 fruits picked and examined in a survey on October 28 of tomato fields in Stanislaus County, 1 was found infested with larvae.

J. C. Elmore (October 19): Infestations have been from 5 to 10 percent of the fruits in most of the lowland areas along the coast in the southern part of the State. In highland areas of almost continuous tomato growing, infestations of the fruits have run from 22 to 76 percent in untreated plots.

POTATO TUBER MOTH (*Gnorimoschema operculella* Zell.)

California. A. E. Michelbacher (October 20): On September 27 in San Joaquin County a single tomato was found infested with three larvae. On October 14 in Yolo County a single tomato was found infested with a larva. This marks the first time a tomato has been observed to be infested with potato tuber moth larva in Yolo County. Infestation at Pleasanton, Alameda County, averaged less than 1 percent. (October 27): In a survey of tomato fields in Alameda County on October 26 the amount of fruit infested by larvae ranged from 0 to 6.25 percent. (October 29): In a total of 3,200 fruits picked and examined in a survey on October 28 of tomato fields in Stanislaus County, 2 were found infested with larvae.

A. F. Howland (September 6): Found at Huntington Beach, Orange County, causing damage to tomato fruit in a district where seldom more than a trace of this insect is found on tomatoes. In a 4-acre field 7.8 percent of the fruit on 25 plants was found to be infested. A total of 653 fruits were examined and 51 were found to be infested.

HORNWORMS (Protoparce spp.)

California. A. E. Michelbacher (October 20): On September 27 in San Joaquin County hornworm damage of a serious nature was observed in only a few tomato fields. A number of tomato fields in Sacramento County, surveyed on October 13, showed little evidence of serious hornworm damage. Hornworms did some rather serious damage to potato vines at Madera, Madera County, observed on September 26, when the infestation was found to be rather heavy. Apparently, the infestation on potatoes resulted from a build-up of a large population of moths on datura, which was very abundant throughout the summer. (October 29): Hornworms were found to have caused considerable damage in a number of tomato fields surveyed in Stanislaus County on October 28.

BEANS

MEXICAN BEAN BEETLE (Epilachna varivestis Muls.)

North Carolina. W. A. Thomas (October 7): Still very abundant on late beans, cowpeas, and soybeans at Chadbourn. On the late snap beans it has been necessary to resort to control measures in order to protect the crop. Usually in this area the bean beetle injury is practically over at this period of the year, but the infestation persisted throughout the summer and fall, necessitating frequent control measures during the entire season.

Tennessee. G. M. Bentley (October 28): Reported on October 26 as present in large numbers on garden beans at Bearden, Knox County.

Mississippi. C. Lyle (October 26): Reported on October 20 as having destroyed a great many plantings of beans in the northern part of Yalobusha County during recent weeks. Injury continued heavy on late plantings of beans in the vicinity of Meridian. Heavy damage to beans in Marshall County reported on October 5.

Arizona. C. D. Lebert (September 27): The entire planting of pole beans near Cottonwood, Verde Valley, Yavapai County, is practically gone, owing to the bean beetle. Adults and larvae present. Every vine almost completely skeletonized.

BEAN LEAF BEETLE (Cerotoma trifurcata Forst.)

Maryland. E. N. Cory (October 3): Present on beans in Princess Anne, Somerset County.

North Carolina. W. A. Thomas (October 12): Still causing appreciable damage, especially to late beans at Chadbourn. It is also present in injurious numbers on fields of late cowpeas and soybeans.

BANDED CUCUMBER BEETLE (Diabrotica balteata Lec.)

Alabama. J. M. Robinson (October 22): Found on beans and other vegetables at Auburn on October 10.

California. J. C. Elmore (September 26): Observed damaging pole beans at Yorba Linda, Orange County. From 5 to 10 adults were counted per vine.

BEAN LEAF ROLLER (Goniurus proteus L.)

Louisiana. L. O. Ellisor (October 22): Damaging the garden beans at Baton Rouge.

LESSER CORNSTALK BORER (Elasmopalpus lignosellus Zell.)

Mississippi. C. Lyle (October 26): Specimens were sent in on October 20, with a report that 75 percent of the beans in an 8-acre field at Overt, Jones County, had been damaged.

GREEN CLOVER WORM (Plathypena scabra F.)

Alabama. F. S. Arant (October 17): Reared from larvae that were doing considerable damage to string beans and lima beans at Auburn. (Det. by J. F. G. Clarke.)

PEAS

PEA APHID (Illinoia pisi Kltb.)

Maine. J. H. Hawkins (September 24): Present in clover planted with late canning peas at Exeter, Penobscot County. Clover in early and midseason canning peas on the same farm not heavily infested.

Virginia. H. G. Walker and L. D. Anderson (October 28): Rather heavily infesting late peas at Norfolk.

Wisconsin. J. E. Dudley, Jr. (October 20): Much more numerous on alfalfa in Dane County, than for several years. On October 20 the average was from 150 to 200 aphids per sweep. A small percentage of oviparous females, from 1 to 2 percent. No males found as yet. Unusually warm weather and alfalfa in good condition, probably the cause.

Utah. G. F. Knowlton (October 14): More abundant on alfalfa than during the hot summer weather. Males, oviparous females, and eggs now being found in some northern localities.

CABBAGE

IMPORTED CABBAGE WORM (Pieris rapae L.)

Connecticut. N. Turner (October 22): Late cabbage and cauliflower show moderate to serious infestation. In Litchfield County few late cabbage growers dusted and there was no serious loss. Larvae more abundant in the Connecticut River Valley.

Virginia. H. G. Walker and L. D. Anderson (October 28): Although butterflies have been rather abundant in cabbage and collard fields this fall, very little damage has been caused by this insect at Norfolk.

Louisiana. C. O. Eddy (October 22): Butterflies have been flying abundantly during the last 10 days.

Nevada. G. G. Schweis (October 19): Untreated cabbage severely damaged by cabbage butterfly larvae.

California. R. E. Campbell (October 20): Present in practically all fall and winter cauliflower fields in Los Angeles County in sufficient numbers to require control measures.

CABBAGE LOOPER (Autoarapha brassicae Riley)

Virginia. H. G. Walker and L. D. Anderson (October 28): Since a disease killed most of the loopers that appeared late in the summer, this insect has been quite scarce at Norfolk.

A CABBAGE WORM (Evergestis straminealis Hbn.)

Connecticut. N. Turner (October 21): Several infested heads of Chinese cabbage in one small planting.

CABBAGE WEBWORM (Hellula undalis F.)

North Carolina. W. A. Thomas (October 10): Larvae still fairly abundant in fields of turnip and cabbage in the Chadbourn area. The peak of injury is past and there is a gradual decline in the number of adults observed.

South Carolina. W. C. Nettles (October 24): Less abundant than usual.

Mississippi. C. Lyle (October 26): Specimens sent in on September 30 with the report that a 4-acre field of cabbage in Forrest County had been destroyed by them. Considerable damage to cabbage also reported on October 6 in Copiah County.

CABBAGE APHID (Brevicoryne brassicae L.)

Connecticut. N. Turner (October 22): Locally abundant, about 5 percent damage in one 5-acre field.

Virginia. H. G. Walker and L. D. Anderson (October 28): A few cabbage plants at Norfolk rather heavily infested but not over 10 percent of the plants in any field examined have been infested with this pest.

Nevada. G. G. Schweis (October 19): Cabbage plants greatly stunted by aphids.

HARLEQUIN BUG (Murgantia histrionica Hahn)

Virginia. H. G. Walker and L. D. Andersen (October 26): Rather abundant and causing considerable damage in one cabbage field at Norfolk. However, this is the only field observed where they have been abundant enough to cause injury.

South Carolina. J. G. Watts (October 27): Half-grown nymphs were observed in small numbers on soybeans at Blackville, Barnwell County.

W. C. Nettles (October 24): Occasional complaints of this pest have been received.

Mississippi. C. Lyle (October 26): Considerable damage to collards in southwestern Mississippi reported. Collards and other garden plants reported as injured in various parts of the State.

ONION THRIPS (Thrips tabaci Lind.)

Connecticut. N. Turner (October 22): Nearly all cabbage fields show moderate thrips damage on outer leaves.

SQUASH

SQUASH BORER (Melittia satyriniformis Hbn.)

Louisiana. C. O. Eddy (October 22): Abundant in squash and pumpkin.

MELONS

PICKLEWORM (Diaphania nitidalis Stoll)

Rhode Island. A. E. Stene (October 26): Early in September summer squash were brought in from Narragansett infested with this borer which, so far as known, has not been previously sent in. Some of the borers were reared and the identification was confirmed by workers from the National Museum.

South Carolina. W. C. Nettles (October 24): Occasional complaints received concerning this pest.

Louisiana. C. O. Eddy (October 22): Abundant in cucumbers during the last month.

Missouri. L. Haseman (October 25): An occasional worm was found feeding in late blossoms as late as October 15 at Columbia. Late worms during October seemed to prefer the blossoms to the squashes.

MELON APHID (Aphis gossypii Glov.)

Minnesota. A. G. Ruggles (October 25): Very abundant this year, causing considerable damage.

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TURNIP

TURNIP APHID (Rhopalosiphum pseudobrassicae Davis)

Connecticut. N. Turner (October 22): Not very abundant, at least 50 percent parasitization, in one field in Cheshire, New Haven County.

Virginia. H. G. Walker and L. D. Anderson (October 28): Some fields of greens are rather heavily infested.

Tennessee. L. B. Scott (October 21): Moderately abundant in the north-central part of the State, doing little damage. The infestation is severe on some of the older plantings.

KALE

GREEN PEACH APHID. (Myzus persicae Sulz.)

Virginia. H. G. Walker and L. D. Anderson (October 28): The lower leaves of kale plants in some fields at Norfolk are moderately infested; however, a great many of the aphids are being killed by a fungus disease and do not seem to be causing much injury to the plants.

STRAWBERRY

A LEAF ROLLER (Anacampsis fragariella Busck)

Oregon. D. C. Mote (October): Observed in the overwintering egg stage in the Willamette Valley. One generation per year is usual, and injury was light during the 1938 season.

STRAWBERRY CROWN MOTH (Conopia bibionipennis Bdv.)

Oregon. D. C. Mote (October): Observed in normal abundance in the Willamette Valley, where the insects are entering winter cells.

CURLED ROSE SAWFLY (Emphytus cinctipes Nort.)

Washington. W. W. Baker and B. J. Landis (October 19): Larvae are more abundant than usual on Marshall strawberries at Sumner, Pierce County.

PEPPER

PEPPER WEEVIL (Anthonomus eugenii Cano)

California. J. C. Elmore (October 19): An average of 76 percent of the pods in untreated experimental plots in Los Angeles and Orange Counties was infested by the end of August. By September 15 this resulted in an 80- to 86-percent pod reduction.

TOBACCO

HORNWORMS (Protoparce spp.)

Tennessee. G. M. Bentley (October 28): The third brood of tobacco hornworms, P. sexta Johan. and P. quinquemaculata Haw., in the first, second, and third instars was found in tobacco fields feeding on the leaves that have come out since the tobacco has been cut. The appearance of this brood is common, but normally larvae are killed by cold weather.

L. B. Scott (October 19): Both the above species are very abundant on tobacco suckers. It appears that there will be a large overwintering population. A few late-harvested fields were severely damaged.

TOBACCO FLEA BEETLE (Epitrix parvula F.)

Tennessee. L. B. Scott (October 19): Present in less than normal numbers during the entire season in north-central Tennessee. Damage is light.

MUSHROOMS

A FUNGUS GNAT (Mycophila fungicola Felt)

Maryland. E. N. Cory (October 24): Serious damage resulted from these insects in mushrooms in houses at Reisterstown, Baltimore County. (Det. by C. T. Greene.)

C O T T O N I N S E C T S

BOLL WEEVIL (Anthonomus grandis Boh.)

South Carolina. F. Sherman (October 17): Boll weevil above average in abundance during latter part of summer and early autumn throughout the State.

Florida. L. C. Fife and C. S. Rude (October 8): Weevils breeding in many fields in Alachua and Marion Counties, where squares are forming on new growth. (October 15): Population still high in most places in Alachua, Marion, and Lake Counties. In Lake County weevils are reported numerous in all fields. This population has built up since about the middle of August, as prior to that time there were very few weevils in that section. (October 22): Destruction of leaves and squares by the leaf worm (Alabama argillacea Hbn.) has checked weevil population, not in all places but over the greater part of the area. (October 29): Weevil population heavy in Lake, Marion, Gilchrist, and Alachua Counties. Undoubtedly large numbers of weevils are going into hibernation.

Mississippi. C. Lyle (October 26): The number of boll weevils going into hibernation in the Grenada district, Grenada County, this fall is considered the largest seen in many years. Very abundant in the 10 northwestern counties of the State.

E. W. Dunnam and J. C. Clark (October 8): Few can be found in most fields of Washington County but they are plentiful in fields with second growth. (October 15): Rapidly decreasing. Some second growth to furnish food in a few fields. (October 29): It is estimated that the population going into hibernation this fall in Washington County just about equals that of a year ago. The weevils, however, are on an average much older, as this dry fall has not been favorable for second growth and weevil breeding. It is thought that the remainder of the heavy summer population is in poor condition for successful hibernation.

R. L. McGarr (October 8): Squares still plentiful in many fields in Oktibbeha and Lowndes Counties for weevils to feed on, sustaining a large number to go into hibernation. (October 29): Still common in small areas of cotton not killed by frost. Weather conditions during the last few days have probably caused a number of weevils to go into hibernation. Field conditions indicate that the weevils should enter hibernation in good condition in Oktibbeha and Lowndes Counties.

Louisiana. R. C. Gaines and assistants (October 29): Boll weevils taken on field flight screens in Madison Parish during the month of October totaled 352 in 1938, as compared to 345 in 1937 and 156 in 1936.

Texas. R. W. Moreland and A. B. Beavers (October 1): Population continues to build up in late-planted cotton in Brazos and Burleson Counties. (October 8): Population light in fields where no top crop was produced. Same condition developing in late-planted cotton. A few fields of late-planted cotton have a fairly heavy population in spots of rank cotton. (October 15): Population practically nil in early planted cotton and light in most fields of late-planted cotton. (October 22): Population unusually light in fields of early planted cotton, as very few squares and blooms are to be found.

THURBERIA WEEVIL (Anthonomus grandis thurberiae Pierce)

Arizona. W. A. Stevenson, et al. (October 1): Further specimens were found in bolls of cotton from Santa Cruz County and present indications are that the infestation will be considerably larger than in 1937.

BOLLWORM (Heliothis obsoleta F.)

Florida. L. C. Fife and C. S. Rude (October 1): Very few bollworms present in Alachua and Marion Counties. (October 22): No bollworms observed in Alachua, Marion, and Lake Counties.

Mississippi. C. Lyle (October 26): Cotton bolls showing injury received from Madison County on October 10.

Texas. R. W. Moreland and A. B. Beavers (October 1): A number of moths noticed in a field of late-planted cotton visited on September 29. (October 15): A few found in collecting weevils on October 14 in Brazos and Burleson Counties. (October 22): None found in any fields visited on October 21.

Arizona. W. A. Stevenson, et al. (October 1): Indications are that the infestation will be considerably larger than in 1937 in Santa Cruz County. (October 15): Boll examination for determining the percentage of cotton bolls injured by various pests in Santa Cruz County shows that 9.93 percent of the short-staple cotton bolls examined were injured by bollworm, as compared to 3.93 percent in 1937.

COTTON LEAF WORM (Alabama argillacea Hbn.)

South Carolina. F. Sherman (October 16): On a 50-mile tour through the cotton-growing section only two fields, both in Anderson County, were noticed in which defoliation was severe enough to be conspicuous from the road. Defoliation not universal in western South Carolina.

J. G. Watts (October 22): Defoliation rare in South Carolina this season. Only two defoliated fields were seen while traveling through the State. These were in Chester County. Very few moths taken in a trap light at Blackville, Barnwell County.

Georgia. T. L. Bissell (October 11): Moths have been caught almost every night in light traps at Experiment, central Georgia, from September 15 to date, with maximum catches during the period from September 27-30, inclusive. Total moths caught were 1,107; in the period September 27-30, 950, or 86 percent; on September 29, 506, or 46 percent.

O. I. Snapp (October 12): Infestation variable at Fort Valley, central Georgia, this year. In some fields all of the foliage of cotton plants has been devoured, whereas in other nearby fields there has been no feeding.

Florida. L. C. Fife and C. S. Rude (October 22): Plants stripped in many parts of the Sea Island cotton region of Alachua, Marion, and Lake Counties. Too late for damage by this pest. (October 29): Leaf worms have destroyed leaves and squares in most of the plantings in Lake, Marion, Gilchrist, and Alachua Counties and have in this way checked weevil development.

Mississippi. C. Lyle (October 26): Still appearing in fields of late cotton in the vicinity of Senatobia, Tate County.

E. W. Dunnam and J. C. Clark (October 1): Practically all fields in Washington County are 90-percent stripped and second growth is beginning. No small larvae observed. (October 15): This insect has practically disappeared in all fields, regardless of second growth or foliage.

R. L. McGarr (October 1): Very numerous in many fields this week in Oktibbeha and Lowndes Counties.

Oklahoma. C. F. Stiles (October 25): Much cotton defoliated throughout the eastern half of the State. Doing some damage to late cotton on the western side of the State.

Texas. R. W. Moreland and A. B. Beavers (October 1): Moths still abundant in late-planted cotton in Brazos and Burleson Counties, and several spots noticed where worms are ragging the plants. (October 15): A few leaf worms observed in one field on October 14, but no ragging. (October 22): No leaf worms noticed.

COTTON LEAF PERFORATOR (Bucculatrix thurberiella Busck)

Texas. R. K. Fletcher (October 12): Found on seedling cotton in a greenhouse at College Station, Brazos County.

Arizona. W. A. Stevenson, et al. (October 1): During the latter part of September the cotton perforator appeared in large numbers in several fields near Gilbert, Maricopa County. Parts of two large fields just north of Gilbert were almost defoliated. The infestation developed too late in the season to cause any material damage, as the crop had already been made. A severe outbreak occurred in the same locality in 1936.

LEAF APHIDS (Aphidinae)

Florida. L. C. Fife and C. S. Rude (October 15): Aphids not numerous in Alachua, Marion, and Lake Counties the first 2 weeks in October. (October 22): No aphids observed in above counties.

Mississippi. E. W. Dunnam and J. C. Clark (October 15): Aphids decreased and became scarce from October 1 to 15 in Washington County. (October 22): There was a slight increase in population above that of last week.

Texas. R. W. Moreland and A. B. Beavers (October 1): Population heavy in field of late-planted cotton visited on September 29. (October 8): Still present in fields of young cotton visited during the week in Brazos and Burleson Counties. (October 15): Present in a field where weevils were collected on October 14, but infestation not heavy. (October 22): No aphids noticed in any of the fields visited on October 21.

COTTON STAINER (Dysdercus suturellus H. S.)

Florida. L. C. Fife and C. S. Rude (October 1): Present in most fields in Alachua and Marion Counties. Not sufficiently numerous to do serious damage in most places. (October 15): Numerous in some fields in Alachua, Marion, and Lake Counties and damaging the lint of the late pick. (October 29): Abundant in some sections of Lake, Marion, Gilchrist, and Alachua Counties, still causing some damage to the late picking of cotton.

COTTON FLEA HOPPER (Psallus seriatus Reut.)

Texas. R. W. Moreland and A. B. Beavers (October 1): Still present in fields of young cotton visited in Brazos and Burleson Counties. (October 8): Observed in young cotton during the early part of the week. (October 15): Very few hoppers noticed in field of young cotton where weevils were collected on October 14. (October 22): No hoppers noticed in fields examined on October 21.

FOREST AND SHADE-TREE INSECTS

GYPSY MOTH (Porthetria dispar L.)

Vermont. H. L. Blaisdell (September 23): Single-egg-cluster infestations were discovered in the towns of Goshen and Granville, located within the barrier zone in Addison County. These towns are situated on high elevations in the Green Mountain Range and have not previously been infested. It is evident that these infestations became established as a result of wind spread of caterpillars from an infestation existing along the White River to the east.

Massachusetts. A. F. Burgess (October 20): Recently a new gypsy moth infestation was discovered in the western part of North Adams Township, bordering the Williamstown town line. This infestation is relatively small and ought to be easily exterminated. Its location is several miles from any other infestation found in this particular section for several years.

FOREST TENT CATERPILLAR (Malacosoma disstria Hbn.)

Minnesota. R. H. Nagel (October): Egg-mass counts late in September in the Gunflint area, in northeastern Minnesota, showed that there were only three or four masses per average-sized tree. Although based on a rather small area, the count supports the observations made in July that the number of emerging moths was very low. At that time it was estimated that between 90 and 95 percent of the larvae and pupae would be destroyed by tachinids and sarcophagids.

FALL WEBWORM (Hyphantria cunea Drury)

Rhode Island. A. E. Stone (October 26): This species was not nearly so abundant as last year.

Mississippi. W. L. Douglass (October 26): Absence reported as very noticeable in the Grenada district this fall.

A CATERPILLAR (Heterocampa manteo Dblady.)

Minnesota. R. H. Nagel (October): A very heavy infestation reported in the Marcell Ranger district of Chippewa National Forest, northern Minnesota. Defoliation of birch, basswood, and oak was very heavy and the affected area resembled those defoliated by the forest tent caterpillar at the peak of the infestation. On an area of 125 square feet prepuccal larvae averaged 4.7 per square foot, and the degree of parasitization of specimens taken from under the leafmold appeared to be very low.

CANKERWORMS (Geometridae)

Illinois. W. P. Flint (October 28): Examinations made during the month indicate that pupae are present in the soil in very large numbers and apparently in a healthy condition. There is every indication that the outbreak of last spring will continue in 1939.

BAGWORM (Thyridopteryx ephemeræformis Haw.)

North Carolina. Z. P. Metcalf (September 30): Reported as seriously damaging ornamentals in Edgecombe County.

Mississippi. M. L. Grimes (October 26): Several infestations on arbovitæ plants in the vicinity of Meridian were recently reported.

WALKINGSTICK (Diapheromera femorata Say)

Pennsylvania. A. F. Burgess (October): Very heavy feeding was observed early in September in woodlands just east of Woodward, Centre County, on State Highway No. 45. The defoliation of the area as a whole averaged 50 to 60 percent, but in some instances individual red oaks were completely stripped.

TWO-LINED CHESTNUT BORER (Agrilus bilineatus Web.)

New York. E. P. Felt (October 22): Borer has developed in considerable numbers in oak and also in beech in Westchester County, the primary cause probably being weakening following the extreme drought of several years earlier.

PIGEON TREMEX (Tremex columba L.)

Nebraska. M. H. Swenk (October 21): Specimens received from Saunders, Cheyenne, Buffalo, and Adams Counties from September 22 to October 6. These insects had been found on mulberry, hackberry, poplar, apple, and elm trees. Presence of its parasite, Eualessa lunator F., reported from Cedar County on September 29.

A LEAFHOPPER (Oncometopia undata F.)

Tennessee. L. B. Scott (October 19): Sharpshooters, probably O. undata, are present in very large numbers on shade trees in north-central Tennessee, particularly on maple, black gum, and hackberry.

ASPEN

A LEAF BEETLE (Chrysomela tremulae F.)

Pennsylvania. L. G. Baumhofer (October): Reported as causing heavy defoliation of aspens in many areas of the Allegheny National Forest, northwestern Pennsylvania, during the season. (Det. by H. S. Barber.)

BIRCH

AN APHID (Euceraphis betulæ L.)

New Jersey. M. D. Leonard (October 15): Still fairly common on the undersides of leaves of all birches examined in Ridgewood, Bergen County. A liberal sprinkling of true sexual forms present. Damage is light.

CATALPA

SCURFY SCALE (Chionaspis furfura Fitch)

North Carolina. D. L. Wray (October 15): Severe damage to catalpa trees at Charlotte, Mecklenburg County, this year.

CYPRESS

A SCALE (Ehrhornia cypressi Ehrh.)

California. Kern County Monthly News Letter (September 6): The cottony cyress scale is on the increase on Monterey cyress trees and hedges and in some instances the trees are so severely injured that it is advisable to destroy them.

ELM

ELM LEAF BEETLE (Galerucella xanthomelana Schr.)

Alabama. J. M. Robinson (October 26): Complaints received from Birmingham about beetles feeding on the leaves of elm. Believed to be the elm leaf beetle.

FIR

DOUGLAS FIR TUSSOCK MOTH (Hemerocampa pseudotsugata McD.)

Oregon. F. P. Keen (October): This insect is scattered far and wide over the Blue Mountains of northeastern Oregon. Douglas firs and white firs being defoliated but, as yet, with little loss of timber. The last previous outbreak started 10 years ago and the species simultaneously made its appearance in British Columbia, northeastern Washington, eastern Oregon, and Idaho.

W. L. Buckhorn (August 31): A moderate defoliation of Pseudotsuga douglasi and Abies concolor was noted over an area of 92,000 acres in the Malheur National Forest, southeastern Oregon. Centers of greatest intensity, where the foliage was completely stripped from the hosts, were found in many of the small canyons.

A TUSSOCK MOTH (Hemerocampa oslari Barnes)

California. J. M. Miller (October 18): Serious outbreaks, which have been running during 1935, 1936, and 1937, have resulted in the death of a high percentage of white fir stands east of the Sierra Nevada Mountains in Mono and Inyo Counties. On a survey of these areas in September 1938, practically no evidence of feeding was found. The outbreak has apparently subsided from natural causes.

HACKBERRY

RED-HEADED ASH BORER (Neoclytus acuminatus F.)

Nebraska. M. H. Swenk (October 21): Hackberry trees in Harlan County were reported to be infested on September 23.

HACKBERRY NIPPLE GALL (Pachyosylla celtidis-mamma Riley)

Nebraska. M. H. Swenk (October 21): Specimens of hackberry leaves received from Harlan County on September 26. Leaves showed deformation produced by this gall insect.

LARCH

SAWFLIES (Platycampus spp.)

Idaho. J. C. Evenden (October): During the last season Platycampus laricivorus Rohw. and Midd. and P. laricis Rohw. and Midd. were again recorded in epidemic numbers on western larch near Granite, Bonner County. A previous outbreak of these insects was recorded from the laboratory at Coeur d'Alene, Kootenai County, in 1921. The following season this severe epidemic was so effectively reduced by the natural elements of control that there was no evidence of its existence. Apparently this condition is to be repeated with the present outbreak, for, although there were myriads of larvae present within this area during the last season, only a very few overwintering cocoons can now be found.

LOCUST

LOCUST LEAF MINER (Chalepus dorsalis Thunb.)

Rhode Island. A. E. Stene (October 26): About as abundant as last summer.

OAK

AN OAK GALL (Philonix nezomachoides O. S.)

Massachusetts. E. P. Felt (October 22): Moderately abundant in eastern Massachusetts. In no instance was it definitely associated with material injury to its host plant.

Iowa. E. P. Felt (October 22): Reported as numerous at Sioux City.

BORERS (Prionidae)

Rhode Island. A. E. Stene (October 26): Uprooting of trees in Providence by the recent hurricane disclosed considerable damage to oaks from a large root borer, probably a prionid.

Connecticut. W. Turner (October 22): At Hamden dozens of larvae of Prionus laticollis Drury were found in stumps of scarlet and white oaks uprooted by the hurricane. In most cases the trees were not sound.

PINE

BARK BEETLES (*Dendroctonus* spp.)

North Carolina. Z. P. Metcalf (September 30): The southern pine bark beetle (*D. frontalis* Zimm.) is worse than last year, but about average for this pest throughout the State.

Mississippi. M. L. Grimes (October 26): Reported on October 19 that about 4 acres of pine timber near Union, Newton County, had been severely damaged by beetles, and the specimens received proved to be *D. torrens* Oliv., *Ips calligraphus* Germ., and *Platypus flavicornis* F.

Oregon and Washington. F. P. Keen (October): In eastern Oregon and Washington preliminary data received from surveys of the western pine beetle (*D. brevicornis* Lac.) situation in these localities indicate a marked general increase in losses of ponderosa pine caused by this insect. On many sample plots this increase for 1938 runs from 100 to 200 percent of the 1937 loss, which is particularly surprising in view of a general improvement in moisture conditions and tree vitality. The beetle is evidently responding to cyclic factors which are not related to host conditions.

California. J. M. Miller (October 18): A noticeable increase in the activity of the western pine beetle was observed in the southern Sierra region late in the summer of 1938. The two preceding seasons have been marked by an endemic condition of the infestation, with low timber losses. As yet the recent increase is of mildly aggressive character and it is too early to assume that it is the forerunner of an epidemic outbreak.

DEODAR WEEVIL (*Pissodes nemorensis* Germ.)

Maryland. E. M. Cory (September 28): Reported from Dickerson, Montgomery County, on mugho pine.

SAWFLIES (*Neodiprion* spp.)

Indiana. J. J. Davis (October 3): An unprecedented outbreak of pine sawflies, which are defoliating or partially defoliating pine trees in practically all sections of the State. In some cases individual trees were defoliated, while in others entire groves were attacked. Adults not yet reared but larvae identified by R. A. Cushman as Abbott's pine sawfly (*N. pinetum* Nort.).

Mississippi. C. Lyle (October 26): Specimens of N. lecontei Fitch on pine received from Jefferson County on September 29 with a report of moderate damage.

MANTUCKET PINE SHOOT MOTH (Rhyacionia frustrana Comst.)

Massachusetts. A. I. Bourne (October 24): Samples were received on August 20 of injured shoots of pine, first observed from an airplane circling over the cape and the adjacent islands. Specimens were taken from an area of damaged pines from Edgartown, on Martha's Vineyard. The observer reported that the whole patch of pine trees looked like a great brown rug spread out as seen from the air. The area was later visited and samples collected. Identification confirmed by Federal laboratories at New Haven.

Tennessee. G. M. Bentley (October 28): Reported as causing injury to pines on the campus of Columbia Military Academy at Columbia, Maury County.

Mississippi. W. L. Douglass (October 26): Injury to young pine growth reported as common at Grenada.

A NEEDLEMINER (Recurvaria sp.)

California. J. H. Miller (October 18): An active infestation, found by J. E. Patterson southeast of Mono Lake, Mono County, had caused serious damage to pinon pine. This is the first record of defoliation of pinon in California areas by this needleminer, which is apparently very close to R. mulleri Busck. It is of considerable importance as the Mono and Piute Indians use this area for gathering supplies of pinon nuts. Approximately 7,000 acres have been defoliated and of this 2,000 acres have been killed outright. Approximately 90 percent of the needles of the growth prior to 1938 have been mined.

PINE APHID (Cinara strobi Fitch)

Connecticut and New York. E. P. Felt (October 22): Pine aphids, particularly this species, have been sufficiently abundant to cause material injury to white pines, both on western Long Island, N. Y., and in southwestern Connecticut.

A SCALE (Toumeyella numismaticum Pet. and McDan.)

Ohio. E. W. Menoerhall (September 16): Chinese pine (Pinus sinensis) infested with a scale insect found in a nursery at Newark, Licking County (det. by H. Morrison). Lepidopterous larvae, probably Laetilia coccidivora Comst., also found on the twig, are presumed to have been feeding on the scale (det. by C. Heinrich).

SPRUCE

A SAWFLY (Pikonema dimmockii Cress.)

Michigan. H. J. MacAloney (September 14): A few full-grown larvae of this spruce sawfly found on black spruce on August 8 in the Marquette National Forest, Upper Peninsula.

EUROPEAN SPRUCE SAWFLY (Diprion polytomum Htg.)

New England and New York. J. V. Schaffner, Jr. (October 29): An intensive survey of spruce areas in New Hampshire, Vermont, and New York showed that the sawfly was present in at least small numbers wherever inspections were made. A very heavy infestation occurs on Mt. Monadnock and on Pack Monadnock and Temple mountains near the Petersboro-Temple town line, south-central New Hampshire. A medium to heavy infestation occurs in the northern part of the town of Pittsburg near Mt. Kent, in extreme northern New Hampshire. In southern Vermont a very heavy infestation occurs in the towns of Wilmington and Marlboro, while medium to heavy infestations occur on Mt. Ellen, Mt. Abraham, Mt. Battell (in central Vermont), and Green Peak in Dorset. The heavy 1937 infestation at Lincoln, Vt., seems to be reduced somewhat this season. In New York a number of medium to heavy infestations were found on spruce plantations in Columbia, Dutchess, Ulster, Otsego, and Chenango Counties. It is also numerous in some of the older stands in the Adirondacks, but this season no infestations with noticeable defoliation were found there. No survey work was done in Maine this summer but reports indicate that there has been an increase in the intensity of the infestation in northern Maine, and about four towns in Washington County are reported as heavily infested that were only lightly infested last year.

TULIPTREE

TULIPTREE SCALE (Toumeyella liriodendri Gmel.)

Mississippi. C. Lyle (October 26): Tuliptree twigs showing a medium infestation sent in on September 22 from Yazoo City.

WALNUT

WALNUT CATERPILLAR (Datana integerrima G. & R.)

Nebraska. M. H. Swenk (October 21): Walnut trees reported infested on September 28 in Otoe County.

WILLOW

POPLAR AND WILLOW BORER (Cryptorhynchus lapathi L.)

Oregon. D. C. Mote (October): Young larvae observed in willow and poplar at Portland.

AN APHID (Lachnus sp.)

Michigan. R. Hutson (October 22): Very abundant on willow at East Lansing, Owosso, Ionia, Kalamazoo, Benton Harbor, Dundee, Detroit, and Ann Arbor.

INSECTS AFFECTING GREENHOUSE
AND ORNAMENTAL PLANTS

SPOTTED CUCUMBER BEETLE (Diabrotica duodecimpunctata F.)

North Carolina. D. L. Wray (October 1): Severe damage noticed wherever candytuft was grown in western North Carolina. Plants completely defoliated.

Kansas. H. R. Bryson (October 23): Congregated in flower gardens and causing some injury to blooming chrysanthemums. Late beans that were not frozen showed considerable injury to the leaves. They are more abundant in Kansas than for several years.

A SCARABAEID BEETLE (Ochrosia borealis Arrow)*

West Virginia. C. H. Hadley (October): Extensive turf injury reported on grounds of a country club at Wierton, Hancock County. Examination of specimens in October showed that the species causing the damage was O. borealis. Infestation is general over the entire 150 acres of the course, where larval counts run from 10 to about 150 per square foot. Turf on two adjoining estates also heavily infested. Control measures being used over the entire course.

Ohio. J. S. Houser (October 26): This insect has been very abundant this year, particularly in the northern part of the State. Some of the insects are still feeding, although others have started to burrow deeper into the soil. It is no uncommon experience to find large areas of turf completely destroyed.

A TREEHOPPER (Enchenopa binotata Say)

New York. R. W. Horsey (October): Many egg masses on viburnum, also one adult was found on October 20 at Rochester.

HAIRY CHINCH BUG (Blissus hirtus Montd.)

Rhode Island. A. E. Stene (October 26): Reported in two or three places but damage done was not so great as that of last year.

MEALYBUGS (Pseudococcus spp.)

New Jersey. M. D. Leonard (October 25): Several large out-of-door window boxes of coleus observed at Ridgewood in September, with the plants moderately to severely infested by P. citri Risso. Early in October all of the plants in a couple of boxes had been killed

* Note: Blanchard described a species from Bolivia as villosa in the genus Cyclocephala in 1846. Burmeister described villosa in the same genus in 1847. G. J. Arrow in Ann. Mag. Nat. Hist. (vol. 8, p. 172, 1911) substituted borealis for villosa Burm., the North American species.

North Carolina. D. L. Wray (October 1): Considerable damage done to catalpa and barberry in the vicinity of Charlotte.

Mississippi. J. Milton (October 26): An unusually heavy infestation on magnolia trees at Jackson reported on September 21.

COTTONY-CUSHION SCALE (*Icerya purchasi* Mask.)

Mississippi. C. Lyle (October 26): A light infestation on rose in Hinds County reported on September 20. An infestation on Satsuma at Moss Point reported on October 1.

Arizona. C. D. Lebert (September 29): Several pittosporum plants killed in the Phoenix-Mesa area during September. In one instance the scale had gone over to adjoining citrus, where a light infestation was found.

CALIFORNIA RED SCALE (*Chrysomhalus aurantii* Mask.)

Arizona. C. D. Lebert (September 25): A heavy infestation found on roses, euonymus, privet, chinaberry, oleander, and arbovitae in a yard at Phoenix during September. Several plants were removed and many cut back severely and sprayed.

CHRYSANTHEMUM

CHRYSANTHEMUM APHID (*Macrosiphonella sanborni* Gill.)

New Jersey. M. D. Leonard (October 20): Still present in moderate numbers on many plants outdoors in Ridgewood. Winged forms not numerous. Damage negligible.

CORALTREE

MOTHS (Pyralidae)

Louisiana. J. M. Singleton (October 15): Larvae of Agathodes designalis Guen. defoliating coraltree (Erythrina indica) in various sections of New Orleans. Larvae of Terastia meticulosalis Guen. boring in the stems and seed pods of coraltrees, are apparently doing considerable damage to that host throughout the city of New Orleans. (Det. by C. Heinrich.)

CRAPMYRTLE

CRAPMYRTLE APHID (*Myzocallis kahawaluokalani* Kirk.)

Mississippi. C. Lyle (October 26): Heavy infestations on crapemyrtle are general throughout the Meridian district.

DAHLIA

SOFT SCALE (Coccus hesperidum L.)

Alabama. J. M. Robinson (October 22): Reported on Dahlia plants at Tarrant, Jefferson County, on October 17.

EUONYMUS

EUONYMUS SCALE (Chionaspis euonymi Comst.)

North Carolina. Z. P. Metcalf (September 30): Doing usual amount of damage throughout the State.

Alabama. J. M. Robinson (October 22): Reported on japonicas at Dothan, Houston County, on October 20.

Mississippi. W. L. Douglass (October 26): Several euonymus plants at Grenada reported as completely killed by this scale.

HAWTHORN

WOOLLY APPLE ATHID (Eriosoma lanigerum Haussm.)

New York. R. E. Horsey (October): Numerous at Rochester on October 18 on the branches of hawthorn (Crataegus mollis or related species). Evidently it had been quite severe earlier in the season. Washington hawthorn (C. cordata) apparently not infested, although growing next to infested trees. Also numerous on the branches of Sargent crab apple (Malus sargentii).

MULBERRY WHITEFLY (Tetraneura mori Quaint.)

Delaware. E. P. Felt (October 22): Reported in moderate numbers on hawthorn at Wilmington.

HYACINTH

BULB MITE (Rhizoglyphus hyacinthi Bdv.)

North Carolina. D. L. Wray (October 12): Severe damage done to a shipment of hyacinths at a greenhouse in the vicinity of Raleigh.

JUNIPER

JUNIPER SCALE (Diaspis carueli Tarr.)

North Carolina. D. L. Wray (September 30): Severe damage to junipers throughout the western part of the State. Most severely infested localities were Asheville, Charlotte, and Winston Salem. Worse now than for many years.

NINEBARK

AN APHID (Myzus sp.)

New Jersey. M. D. Leonard (October 25): An undetermined species of Myzus, which occurs during the fall has again been present in some numbers on several large ninebark bushes at Ridgewood. As usual, apparently only true sexual forms are present. Very few remain, as most of the leaves are off.

PRIVET

A SCALE (Parlatoria olea Colv.)

Maryland. E. N. Cory (October 1): Reported on privet at Baltimore.

RHODODENDRON

A LEAF MIDGE (Giardomyia sp.)

Connecticut and New York. E. P. Felt (October 22): Noticed several times during the last summer in southeastern New York and southwestern Connecticut, the maggots developing in the young leaves and later producing a condition suggestive of fungus infection.

RHODODENDRON BORER (Conopia rhododendri Beut.)

Maryland. E. N. Cory (October 24): Heavy infestation at Pikesville, Baltimore County.

ROSE

LEAFHOPPERS (Cicadellidae)

Utah. G. F. Knowlton (October 18): Conspicuous damage caused to rose foliage during the season in many localities in northern and central Utah.

INSECTS ATTACKING MAN AND
DOMESTIC ANIMALS

MAN

MOSQUITOES (Culicinae)

- New Jersey. F. C. Bishopp (October 25): On October 21 salt marsh mosquitoes (Aedes sollicitans Walk.) were observed in restricted areas near Barnegat Bay. This mosquito was rather abundant and bit viciously. Elsewhere on a 2-day tour of the northeastern part of New Jersey and the central part of the State along the coast very few mosquitoes were in evidence.
- Maryland. F. C. Bishopp (October 25): On October 16 the salt marsh mosquito and the flood water mosquito (A. vexans Meig.) were causing much annoyance to residents of Bay Ridge, Anne Arundel County, and were reported to have been more troublesome during the last 2 weeks than earlier in the season.
- Tennessee. G. M. Bentley (October 24): A. aegyptii L. still common in buildings.
- Iowa. H. E. Jaques (October 25): More complaints received concerning mosquitoes this fall than for a number of years.
- Missouri. L. Haseman (October 25): A recent check-up on mosquitoes, in connection with a rather severe outbreak of equine encephalomyelitis, has shown that throughout the State there has been an unusual epidemic of mosquitoes this fall. Collections show two species, A. vexans and Culex pipiens L., to be most abundant, with a considerable number of Anopheles punctipennis Say. Owing to the scarcity of rain, mosquitoes have had an ideal chance to breed where water holes were available and spread to surrounding areas.
- Kansas. H. R. Bryson (October 28): Reported on October 25 that mosquitoes were abundant late in September and the first week in October. Few observed recently.
- Texas. E. W. Loake (October 20): Mosquitoes are scarcer at Dallas than they have been for a number of years.

CLEAR LAKE GNAT (Chaoborus sp.)

- California. A. W. Lindquist (September 30): A study of adult abundance, by means of light traps, in the vicinity of Clear Lake, Lake County, indicated a daily fluctuation from 0 to over 16,000,000, with a peak period from August 28 to September 2, and an irregular decline thereafter. A total of 291.5 quarts, or 111 pounds, of gnats were taken in one trap during a 32-day period.

AMERICAN DOG TICK (Dermacentor variabilis Say)

Massachusetts. C. N. Smith (October 18): Activity almost ceased by October 1 but a few scattered specimens were taken as late as October 10 on Martha's Vineyard.

BROWN DOG TICK (Rhipicephalus sanguineus Latr.)

Virginia. H. G. Walker (October 28): Reported as rather heavily infesting dogs in Norfolk. The ticks were also causing a great deal of annoyance by crawling all over several rooms in this home. (Det. by H. E. Ewing.)

Correction: The note on Dermacentor variabilis Say reported in Insect Pest Survey Bulletin dated October 1 (vol. 18, no. 8, p. 571) was incorrect, as the nymphs were later determined by R. A. Cockey as R. sanguineus.

BLACK WIDOW SPIDER (Latrodectus mactans F.)

Virginia. F. C. Bishopp (October 25): On October 24 these spiders were reported to be extremely abundant on a farm in Fairfax County. Thirty were killed in a relatively brief examination about the house. Spiders of various sizes were present.

District of Columbia. J. M. Brennan (October 25): Investigation of an infestation in a residential section of Washington substantiated the report that this species is fairly abundant. On September 14 almost every drain-pipe in a stone retaining wall extending for two blocks contained one or more female spiders in various stages of development. Six egg cases were present in one nest. The food supply appeared to consist principally of beetles, especially Phyllophaga sp. On revisiting this section on October 11, 22 female spiders, 3 of which were mature, were found within half an hour.

Nebraska. M. H. Swenk (October 21): Inquiries as to control around school buildings and in caves were received from Polk, Platte, Boone, and Wheeler Counties from September 21 to October 20.

Kansas. J. R. Horton (October 3): Three females observed at different times during July, in a weather instrument shelter and in other outbuildings. Several specimens -- male, female, and young -- were brought to the laboratory for identification.

Utah. G. F. Knowlton (October 15): A large black widow spider took up residence in my own house at Logan, causing annoyance to the family until it was destroyed.

CATTLE

SCREWORM (*Cochliomyia americana* C. & P.)

Georgia. E. E. Rogers (October 28): Infestations of C. americana decreased sharply during the last week in September and the first 2 weeks of October, but increased enormously during the third week of October on experimentally wounded animals at Valdosta. Four cases occurred from September 26 to October 2; 4 cases from October 3 to 9; 7 cases from October 10 to 16; and 52 cases from October 17 to 26. One infestation of blowflies (Sarcophaga sp.) and one of green blowfly (Lucilia sp.) were noted during the last month on experimentally wounded animals at Valdosta. Specimens of C. macellaria F. infested with Empusa were found on October 3, 10, and 16 in the status-trap collections.

T. L. Bissell (October 11): Two reports from Orchard Hill, Spalding County, that hogs have been attacked by screwworms (Cochliomyia sp.) following castration.

Florida. T. H. Vanderford (October 6): In Hernando, Citrus, and Dixie Counties the screwworm incidence was about the same as last year. In Levy County an increase in infestations was reported, while in Taylor County a severe outbreak occurred during the summer, but the general incidence was about the same as last year.

F. S. Chamberlin (October 20): Reports indicate that screwworm infestations on hogs and cattle are rather severe in Gadsden County.

Alabama. J. M. Robinson (October 22): C. americana has been active at the following places: Autaugaville, Autauga County; Ramer, Montgomery County; Union Springs, Bullock County; and Selma, Dallas County. Worms are **attacking** young calves and recently dghorned cattle.

Iowa. C. J. Drake (October 6): A few flies were taken from the wounds caused by castration of hogs at Pierson, Woodbury County. (Det. by D. G. Hall.)

Texas. E. W. Laake (October 20): Reports on October 15 indicate that there are very few screwworm cases in the vicinity of Guthrie, King County.

STABLEFLY (*Stomoxys calcitrans* L.)

Massachusetts. C. N. Smith (October 18): Severe annoyance caused near beaches on Martha's Vineyard during the first part of October. The flies were found breeding in large numbers in seaweed, beach grass, and other vegetation, a large quantity of which had been piled up along the shore by the recent hurricane.

Gulf coast and Atlantic seaboard. F. C. Bishopp (October 25): Reports during October indicate that rather severe outbreaks occurred along

the western and eastern coasts and in inland Florida, and along the Atlantic coast as far north as Massachusetts. A number of specimens were observed along the coast in the vicinity of Barnegat Bay, N. J., and at times they caused annoyance to man by their bites.

Texas. E. W. Laake (October 20): During October stableflies have continued to be very scarce, probably fewer for this time of the year than for the last 10 years.

HORN FLY (Haematobia irritans L.)

Georgia. A. L. Brody (October 28): Very abundant. About 1,000 per animal on 8 young steers were observed at Valdosta from October 24 to 27.

Texas. E. W. Laake (October 20): Horn flies averaged at least 2,000 per head on 30 or 40 milk cows at Dallas on October 15; at least 4,000 per head on 50 Hereford cows on a ranch at Cresson; and from 3,000 to 6,000, with an average of approximately 3,500 per head, on 105 Hereford cattle in King County.

COMMON CATTLE GRUB (Hypoderma lineatum DeVill.)

Texas. E. W. Laake (October 20): On October 14 grubs averaged 7.4 per head on cattle in King County. Approximately 1 percent of the larvae were young third-stage specimens, the remainder being of the first and second instars.

SHORT-NOSED CATTLE LOUSE (Haematopinus eurytarnus Nitz.)

Texas. E. W. Laake (October 15): Common on Hereford cattle in King County and extremely abundant on some animals.

EAR TICK (Ornithodoros megnini Duges)

Texas. E. W. Laake (October 15): The ear tick is very abundant in King County, practically all cattle examined being infested.

GULF COAST TICK (Amblyomma maculatum Koch)

Georgia. A. L. Brody (October 28): The numbers have decreased considerably during the last month. An average of 0.7 tick per animal was found at each semiweekly examination of sheep at Valdosta.

Florida. H. T. Vanderford (October 6): In general, this tick was not as numerous as last year in Hernando, Citrus, Levy, Dixie, and Taylor Counties.

HORSES

HORSE BOTFLIES (Gasterophilus spp.)

Missouri. L. Haseman (October 25): Eggs of the common horse bot are still abundant on the legs of horses in the central part of the State, the flight of the adults continuing unusually late this year.

Texas. E. W. Laake (October 20): On October 15 in King County the common horse botfly is active and ovipositing to the extent that the forelegs and breasts of most horses are literally covered with ova. Reports indicate that the whole county is so affected.

HORSEFLIES (Tabanidae)

Ohio. J. S. Houser (October 26): On two occasions this fall at Marysville, Union County, clover seed submitted for purity analysis has been found to contain tabanid eggs in numbers sufficiently large to attract attention. It is estimated that these eggs constituted from 1 to 2 percent of the bulk of the sample.

POULTRY

BEDBUG (Cimex lectularius L.)

Nebraska. M. H. Swenk (October 21): Reported as infesting poultry houses in Boone County on September 26, in Saline County on September 28, and in Burt County on October 10.

FOWL TICK (Argas miniatus Koch)

Montana. H. B. Mills (October 22): One fowl tick collected at Haxby on October 8. (Det. by R. A. Cooley.)

SHEEP

SHEEP BOTFLY (Oestrus ovis L.)

Georgia. A. L. Brody (October 28): Twelve goats and 3 sheep were examined at Valdosta from October 1 to 19 for the nose bot, and 31 larvae were recovered, of which 24 were young first-stage. The latter were found on the walls of the nasal passages and on the turbinate bones. Five second-stage larvae and 2 third-stage larvae were found in the frontal sinuses.

Utah. G. F. Knowlton (September 23): Head maggots in sheep reported to be causing losses each year for the last few years at Meadow, Millard County, west-central Utah.

BLACK-LEGGED TICK (Ixodes ricinus scapularis Say)

Georgia. A. L. Brody (October 28): On October 6 the first specimen was seen on sheep at Valdosta. This species has increased in numbers during the last month.

RATS AND MICE

A BOTFLY (Cuterebra sp.)

Rhode Island. A. E. Stene (October 26): A botfly puparium found on a mouse was sent in from Slocum, with the statement that many mice and rats have been found infested in a similar manner.

HOUSEHOLD AND STORED-PRODUCTS INSECTS

TERMITES (Isoptera)

Minnesota. A. G. Ruggles (October 25): Termite infestation still confined to within the city limits of Luverne. No authentic report of even one specimen being found outside this area.

ANTS (Formicidae)

Mississippi. C. Lyle (October 26): Specimens of Monomorium pharaonis L. sent in on October 5 from Shelby, Bolivar County, with the report that they were causing considerable annoyance in a house. The Argentine ant (Iridomyrmex humilis Mayr) infestation in the city of Clarksdale reported as unusually heavy at present. Fire ants (Solenopsis xyloni McCook) have been very numerous on properties in the city of Jackson during the last month.

Oregon. W. J. Bickhorn (September 18): Three bundles of western red cedar shingles had been stored for 5 years under shelter in the dark in the Umatilla National Forest. When opened, the entire center of the bundle had been hollowed out, leaving only a shell. The brood of carpenter ants (Camponotus sp.) was abundant in all stages of development.

FIELD CRICKET (Gryllus assimilis F.)

Michigan. R. Hutson (October 22): Very numerous in northern Michigan, in the area where grasshoppers have also been numerous. In making grasshopper surveys in Cheboygan, Presque Isle, Otsego, Montmorency, Alpena, Alcona, and Oscoda Counties, from 1 to 30 crickets per square yard are reported. There are sometimes as many as 100 per square yard in concentrated areas.

Kansas. J. R. Horton (October 26): The common field cricket was about normally abundant in the Wichita area during the last 3 months. No noticeable damage was done to crops, but the insect caused considerable annoyance to householders, becoming very numerous in cellars, basements, and, in some instances, in upper parts of the houses.

BARKLICE (Psocidae)

Massachusetts. A. I. Bourne (October 24): Have just received from F. J. Chapman identification of the psocids mentioned in a report published in the Insect Pest Survey Bulletin, October 1 (vol. 18, no. 6, p. 383). Two species were found, namely, Lichenomima lugens Hagen and Psocus striatus Walker. L. lugens was the predominating species.

A FLY (Prodesmotopa latipes Meig.)

Ohio. J. S. Houser (October 17): These small agromyzid flies invaded a dwelling at Waynesville in great abundance. Determined by C. T. Greene who says that the species is a scavenger which breeds in a great variety of decaying vegetable and animal matter.

BOXELDER BUG (Leptocoris trivittatus Say)

Pennsylvania. E. J. Udine (October 15): Found in considerable numbers on the warm sides of houses at Carlisle. Many gain entrance and are bothersome to the householders. In the past their presence was reported from only one section of the borough, but this year they can be found in nearly all parts of it.

Nebraska. M. H. Swenk (October 21): Proving annoying in Butler County on October 17.

Kansas. H. R. Bryson (October 25): Boxelder bugs are returning to their normal abundance after being scarce during the last 3 or 4 years.

ANGOUMOIS GRAIN MOTH (Sitotroga cerealella Oliv.)

South Carolina. O. L. Cartwright (October): Infestation of corn in the field seems greater than usual.

Alabama. J. M. Robinson (October 22): Found in wheat at Athens on October 14.

A BORER (Hylotrupes bajulus L.)

Massachusetts. A. I. Bourne (October 24): Early in September specimens received of a borer taken from walls of a house in Brockton, with the report that the walls were completely riddled and borers coming out of the shingles. Carolina pine was used in the construction of the house, which was built about 4 years ago. A similar outbreak reported from Bridgewater, also in Plymouth County, during mid-September.

TULE BEETLE (Agonum maculicollis Dej.)

California. G. H. Kaloostian (October 17): Reported entering a house and getting into shoes and other clothing and furnishings. They

were most plentiful around the ranch house, within 4 feet of the building, where their abundance was described in a telephone report as "one to every square inch." Specimens brought in.

CIGARETTE BEETLE (Lasioderma serricorne F.)

Nebraska. M. H. Swenk (October 21): Infesting a house in Douglas County on October 10.

STORED GRAIN INSECTS (Coleoptera)

North Carolina. Z. P. Metcalf (September 30): Grain weevils, Sitophilus granarius L., reported as attacking popcorn in Wilkes County. (October 7): Doing serious damage to peas and beans in Wilkes County.

South Carolina. O. L. Cartwright (October): The rice weevil (Sitophilus oryza L.) is abundant in all fields examined. One field near Walterboro, Colleton County, had 97 percent of the corn infested; another at Varnville, Hampton County, had 87 percent of the ears infested. Infestations above 50 percent are common.

Alabama. J. M. Robinson (October 22): The cadelle (Tenebroides mauritanicus L.) reported as attacking rye seed at Leroy.

Ohio. J. S. Houser (October 18): At Elyria serious damage to stored wheat of a rather poor quality caused by the saw-toothed grain beetle (Oryzaephilus surinamensis L.). An undetermined small hymenopteron was very abundant in samples of wheat submitted, which suggests possible parasitic attack. (October 24): According to sample of wheat submitted, the rust red flour beetle (Tribolium castaneum Hbst.) is causing serious damage to stored wheat at Galion.

Michigan. R. Hutson (October 22): One infestation of Calandra granaria L. found at Charlotte. Infestations of grain-infesting insects common south of the line drawn from Muskegon to Saginaw. Two species of Tribolium are the commonest found.

Minnesota. A. G. Ruggles. (October 20): Typhaea fumata L., a Mycetophagid beetle, was identified as a species reported as overrunning an apartment house in Minneapolis. This species has also appeared in grain in farm bins in at least two localities in southern Minnesota during the last 3 or 4 months.

Missouri. R. T. Cotton (October 17): Specimens of a beetle, Monotoma parallela Lec., collected by T. F. Winburn in June 1934 in a small cereal mill in Kansas City, has recently been identified by W. S. Fisher. This appears to be the first record of this species attacking stored cereal products, although an allied species, M. quadrifoveolata Aube, has been recorded in Russia as infesting waste grain.



California. G. H. Kaloostian (September 26): Two specimens of the lesser grain borer (Rhizopertha dominica F.) were taken in a rotary net operated in a raisin storage plant at Fresno. These are the first we have seen here.

A MITE (Rhizoglyphus phylloxerae Riley).

Ohio. J. S. Houser (September 17): A stock-food manufacturer and dealer submitted a sample of feed from Massillon, Stark County, northeastern Ohio, heavily infested with this mite. Retailers of the feed were reported to be complaining of the annoyance the mites caused. (Det. by P. Garman.)